

PATENT ABSTRACTS OF JAPAN

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(21)Application number : 2001-115989

(71)Applicant : NIPPON SODA CO LTD

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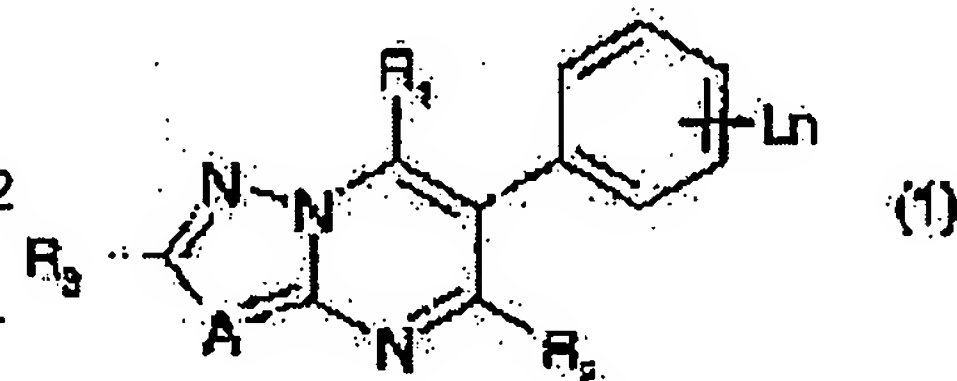
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(54) 5-HALOALKYL AZOPYRIMIDINE COMPOUND, PRODUCTION METHOD, AND HARMFUL ORGANISM CONTROL AGENT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a novel azolopyrimidine compound which can become a harmful organism control agent which exhibits sure effects and can be safely used; its production method; and a harmful organism control agent containing the compound.

SOLUTION: This azolopyrimidine compound is represented by formula (1) [wherein R1 is H, a halogen, a 1-8C alkyl, a 1-8C haloalkyl, an optionally substituted heterocyclic group, a 1-8C alkylamino group, a 1-8C alkyl(haloalkyl) amino group or the like; R2 is a 1-8C haloalkyl; R3 is H, a 1-4C alkyl or an optionally substituted aryl; L is a halogen, a 1-4C alkyl, a 1-3C haloalkyl, a 1-4C alkoxy or a 1-3C haloalkoxy; n is 0-5; and A is N or CH].



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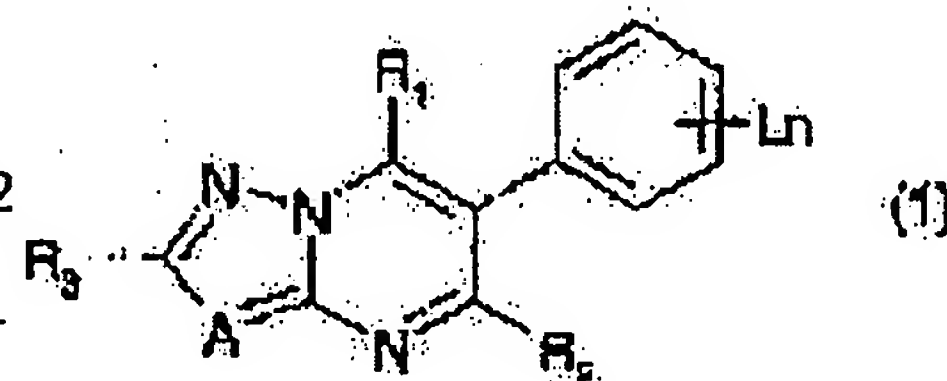
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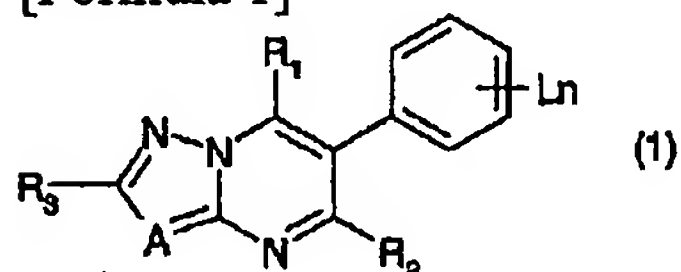
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CLAIMS

[Claim(s)]

[Claim 1] General formula (1)

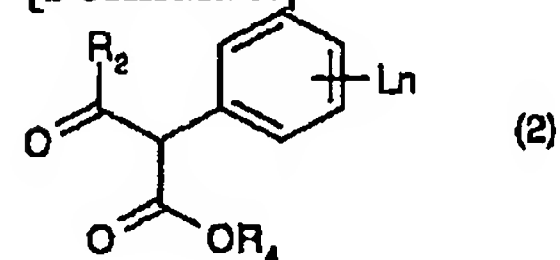
[Formula 1]



The inside of a formula, and R₁ -- a hydrogen atom, a hydroxy group, a halogen atom, and C -- one to 8 alkyl group A C2-8 alkenyl radical, C2-8 alkynyl group, a C3-8 cycloalkyl radical, A C3-8 cyclo alkenyl radical, a C1-8 halo alkyl group, the heterocycle radical that may have the substituent, The aryl group which may have the substituent, the amino group, a C1-8 alkylamino radical, a C1-8 halo alkylamino radical, the C1-8 alkyl (halo alkyl) amino group, or a C1-8 dialkylamino radical is expressed. A heterocycle radical expresses a pyridyl radical, a pyrrolidinyl radical, a piperazinyl radical, a mol HORINIRU radical, or a piperidyl radical here. R₂ expresses a C1-8 halo alkyl group, R₃ expresses the aryl group which may have the hydrogen atom, the C1-4 alkyl group, and the substituent, and L expresses a halogen atom, C1-4 alkyl group, a C1-3 halo alkyl group, C1-4 alkoxy group, or a C1-3 haloalkoxy radical. n expresses the integer of 0, or 1-5, and A expresses N or CH. The AZORO pyrimidine compound expressed or its salt.

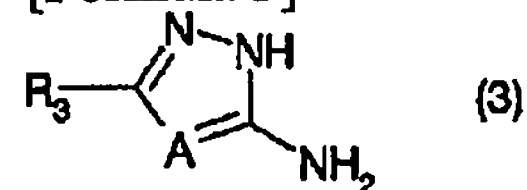
[Claim 2] General formula (2)

[Formula 2]



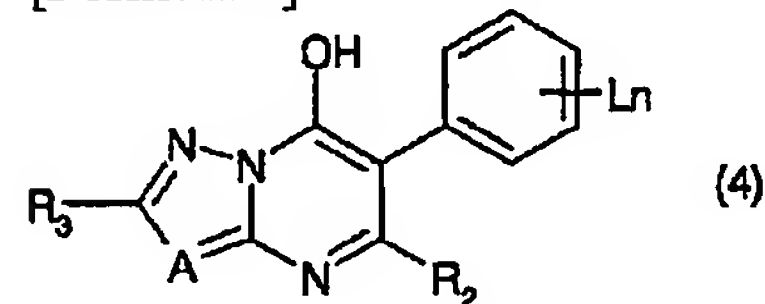
R₂, L, and n express the same semantics as the above among a formula, and R₄ expresses the phenyl group which may have the C1-4 alkyl group or the substituent.) -- the compound expressed and general formula (3)

[Formula 3]



(-- A and R₃ express the same semantics as the above among a formula.) -- general formula (4) characterized by making the compound expressed react

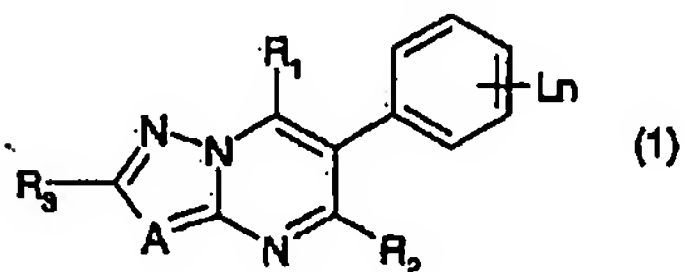
[Formula 4]



(-- A, R₂, R₃, L, and n express the same semantics as the above among a formula.) -- the manufacture approach of an AZORO pyrimidine compound expressed.

[Claim 3] General formula (1)

[Formula 5]



(-- A, R₁, R₂, R₃, L, and n express the same semantics as the above among a formula.) -- pest control agent characterized by containing one sort of the AZORO pyrimidine compound expressed or its salt, or two sorts or more as an active principle.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the pest control agent which contains a new AZORO pyrimidine compound, its manufacture approach, and this compound as an active principle.

[0002]

[Description of the Prior Art] Although much prevention drugs are used to the disease of a crop in vegetation of a plantation art crop, there is not little what is hard to be called prevention medicine which should not necessarily be satisfied from a viewpoint of effect by the toxicity and the environment as opposed to men-and-
 ○asts fishes in producing phytotoxicity and contamination in a plant body **** [, and]. [that the prevention validity is insufficient or the activity is restricted with the advent of the disease germ of drug tolerance]
 Therefore, the appearance of the drugs which can be used for insurance with few these faults is demanded strongly.

[0003] As an AZORO pyrimidine compound similar to this invention compound, it is indicated, for example that the compound with which the 5th place of a triazolo pyrimidine compound was permuted by WO 99/No. 41255 official report, the USP. No. 5756590 official report, JP,11-035581,A, etc. by the methyl group or the chlorine atom is useful as a germicide for plantation arts.

[0004] However, the compound which has a halo alkyl group in the 5th place of an AZORO pyrimidine ring is not indicated like this invention. Moreover, the 2-phenyl-4-halogeno-3-oxo-butyrate which is a manufacture intermediate product is reference a non-indicated new molecular entity.

[0005]

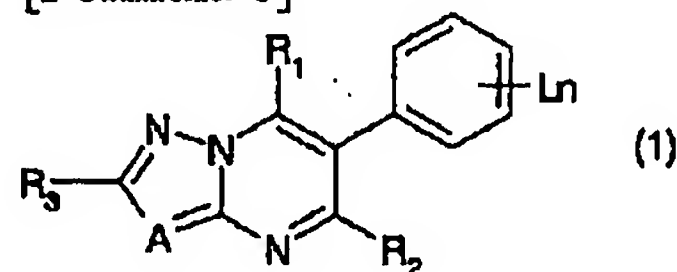
[Problem(s) to be Solved by the Invention] Effectiveness of this invention is trustworthy and it aims at offering the new AZORO pyrimidine compound which can serve as a pest control agent which can be used for insurance, its manufacture approach, and the pest control agent which contains these as an active principle.

[0006]

[Means for Solving the Problem] This invention is one general formula (1).

[0007]

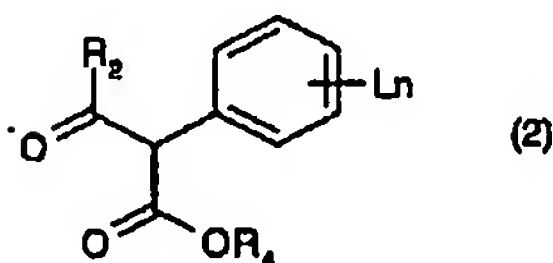
[Formula 6]



[0008] the inside of a formula, and R1 -- a hydrogen atom, a hydroxy group, a halogen atom, and C -- one to 8 alkyl group A C2-8 alkenyl radical, C2-8 alkynyl group, a C3-8 cycloalkyl radical, A C3-8 cyclo alkenyl radical, a C1-8 halo alkyl group, the heterocycle radical that may have the substituent, The aryl group which may have the substituent, the amino group, a C1-8 alkylamino radical, a C1-8 halo alkylamino radical, the C1-8 alkyl (halo alkyl) amino group, or a C1-8 dialkylamino radical is expressed. A heterocycle radical expresses a pyridyl radical, a pyrrolidinyl radical, a piperazinyl radical, a mol HORINIRU radical, or a piperidyl radical here. R2 expresses a C1-8 halo alkyl group, R3 expresses the aryl group which may have the hydrogen atom, the C1-4 alkyl group, and the substituent, and L expresses a halogen atom, C1-4 alkyl group, a C1-3 halo alkyl group, C1-4 alkoxy group, and a C1-3 haloalkoxy radical. n expresses the integer of 0, or 1-5, and A expresses N or CH. The AZORO pyrimidine compound expressed or its salt 2 general formula (2)

[0009]

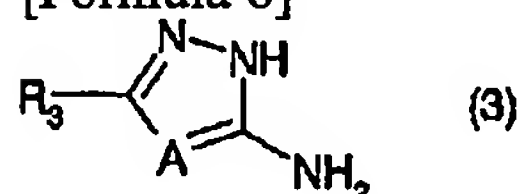
[Formula 7]



[0010] (-- R2, L, and n express the same semantics as the above among a formula, and R4 expresses the phenyl group which may have the C1-4 alkyl group or the substituent.) -- the compound expressed and general formula (3)

[0011]

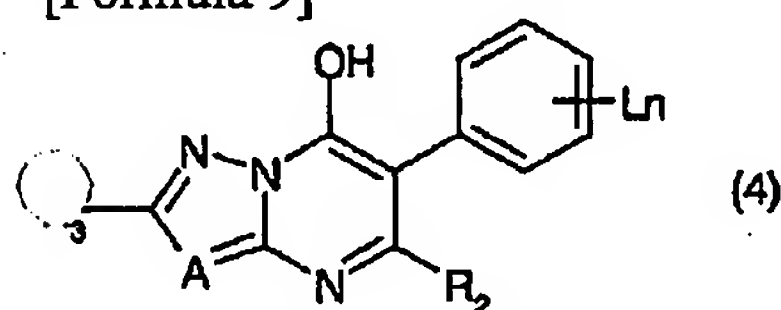
[Formula 8]



[0012] (-- A and R3 express the same semantics as the above among a formula.) -- general formula (4) characterized by making the compound expressed react

[0013]

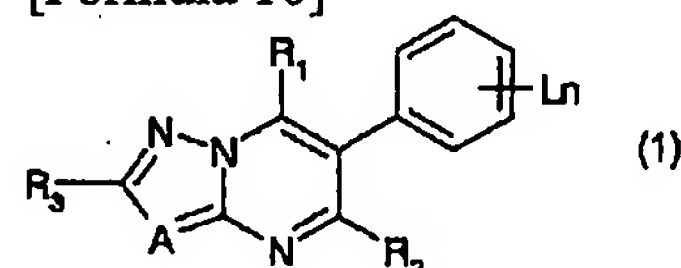
[Formula 9]



[0014] (-- A, R2, R3, L, and n express the same semantics as the above among a formula.) -- the manufacture approach of an AZORO pyrimidine compound expressed, and three general formula (1)

[0015]

[Formula 10]



[0016] (-- A, R1, R2, R3, L, and n express the same semantics as the above among a formula.) -- it is the pest control agent characterized by containing one sort of the AZORO pyrimidine compound expressed or its salt, or two sorts or more as an active principle.

[0017]

[Embodiment of the Invention] This invention is explained to a detail below. In said general formula (1) R1 A hydrogen atom; hydroxy group; fluorine, Halogen atoms, such as chlorine, a bromine, and iodine; A methyl group, an ethyl group, n-propyl group, C1-8 alkyl groups, such as an isopropyl group, n-butyl, sec-butyl, and t-butyl; A vinyl group, 1-propenyl radical, 2-propenyl radical, 1-butenyl group, 2-butenyl group, C2-8 alkenyl radicals, such as 3-butenyl group; An ethynyl group, 1-propynyl radical, C2-8 alkynyl groups, such as 1-butylnyl radical and 2-butylnyl radical; A cyclo propyl group, C3-8 cycloalkyl radicals, such as a cyclopentyl group and a cyclohexyl radical; A cyclo pentenyl radical, C3-8 cyclo alkenyl radicals, such as a cyclohexenyl group; A fluoro methyl group, Difluoromethyl group, a trifluoromethyl radical, a difluoro chloro methyl group, C3-8 halo alkyl group; 1-pyridyl radicals, such as a chloro methyl group, 1-fluoro ethyl group, 2-fluoro ethyl group, and a pentafluoro ethyl group, 2-pyridyl radical, 3-pyridyl radical, 4-pyridyl radical, a 1-piperazinyl radical, A 2-piperazinyl radical, a 4-methyl-1-piperazinyl radical, 1-pyrrolidinyl radical, 2-pyrrolidinyl radical, 3-pyrrolidinyl radical, 1-mol HORINIRU radical (morpholino radical), The heterocycle radical which may have substituents, such as 2-mol HORINIRU radical, 3-mol HORINIRU radical, a 1-piperidinyl radical, and 2-PIPERINIRU radical; A phenyl group, Aryl group; amino group which may have substituents, such as 1-naphthyl group and 2-naphthyl group; A methylamino radical, C1-8 alkylamino radicals, such as an ethylamino radical and an isopropylamino radical; C1-8 halo alkylamino radical; methyl (2, 2, and 2-trifluoro ethyl) amino groups, such as 2, 2, and 2-trifluoro ethylamino radical, C1-8 alkyl (halo alkyl) amino groups, such as 1-trifluoromethyl ethylamino radical; C1-8 dialkylamino radicals, such as a dimethylamino radical and a diethylamino radical, are expressed.

[0018] As a substituent of said heterocycle radical and an aryl group, alkoxy group; nitro group; cyano group; such as halogen atom; methoxy groups, such as a fluorine and chlorine, and an ethoxy radical, etc. is

mentioned. moreover, a heterocycle radical and an aryl group are the same in the location of arbitration -- or it may be different from each other and you may have two or more substituents.

[0019] R₂ expresses the halo alkyl group of C 1-8, such as a fluoro methyl group, difluoromethyl group, a trifluoromethyl radical, a chloro methyl group, a dichloro methyl group, a TORIKURORO methyl group, a difluoro chloro methyl group, a fluoro dichloro methyl group, 1-fluoro ethyl group, 2-fluoro ethyl group, 2 and 2, 2-trifluoro ethyl group, and a pentafluoro ethyl group. R₃ expresses the aryl group which may have substituents, such as C1-4 alkyl-group; phenyl groups, such as a hydrogen atom; methyl group and an ethyl group, 2-pyridyl radical, 3-pyridyl radical, 4-pyridyl radical, 1-naphthyl group, and 2-naphthyl group. As a substituent of an aryl group, alkoxy group; nitro group; cyano group; such as halogen atom; methoxy groups, such as a fluorine and chlorine, and an ethoxy radical, etc. is mentioned. moreover, a heterocycle radical and an aryl group are the same in the location of arbitration -- or it may be different from each other and you may have two or more substituents.

[0020] L expresses C1-3 haloalkoxy radicals, such as C1-4 alkoxy-group; trifluoro methoxy groups, such as C1-3 halo alkyl group; methoxy groups, such as C1-4 alkyl-group; trifluoromethyl radicals, such as halogen atom; methyl groups, such as a fluorine, chlorine, a bromine, and iodine, and an ethyl group, and an ethoxy radical. n expresses the integer of 0, or 1-5, and A expresses N or CH.

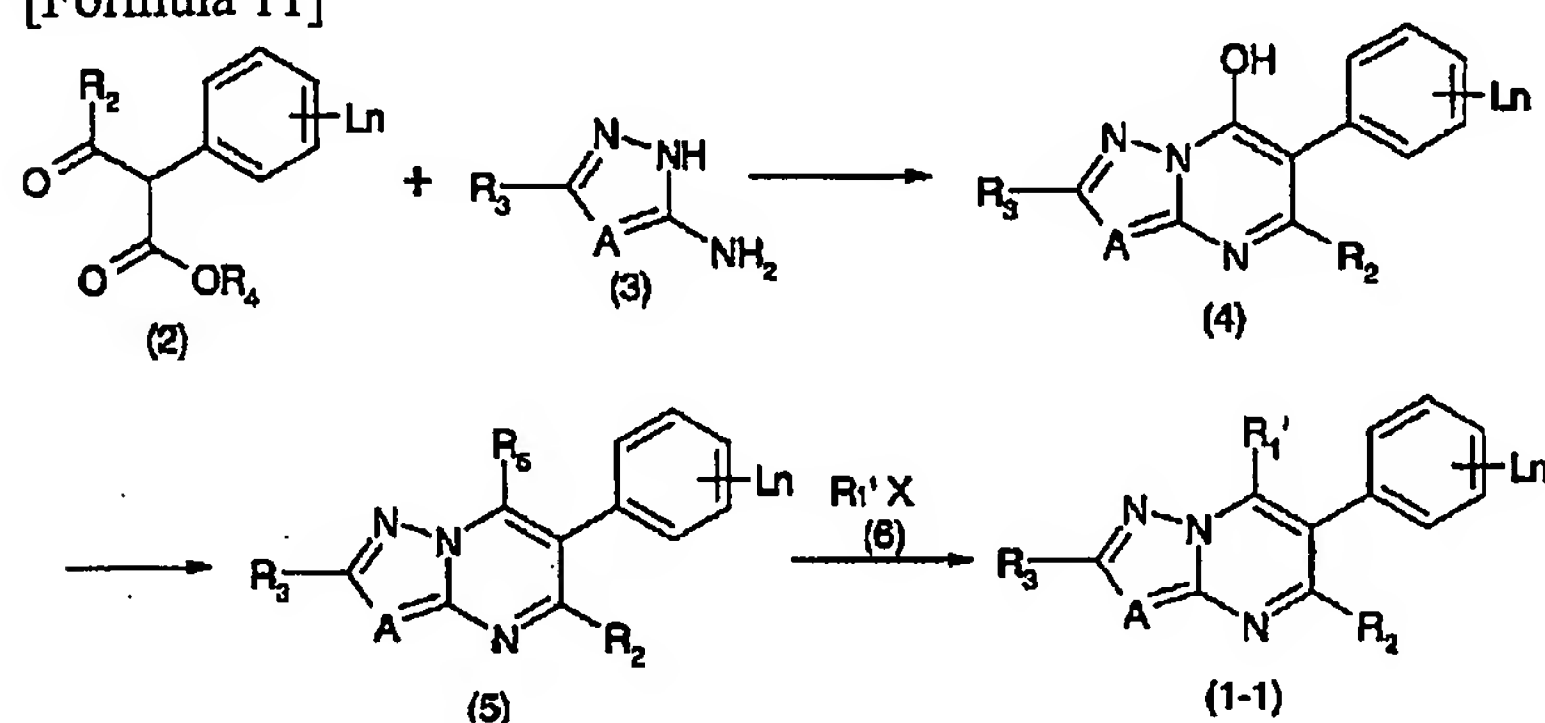
[0021] As a salt of this invention, the salt of organic acids, such as a salt of mineral acids, such as a hydrochloric acid and a sulfuric acid, and methansulfonic acid, an acetic acid, oxalic acid, can be mentioned.

[0022] this invention compound can be manufactured by the following approaches.

(Manufacturing method 1)

[0023]

[Formula 11]



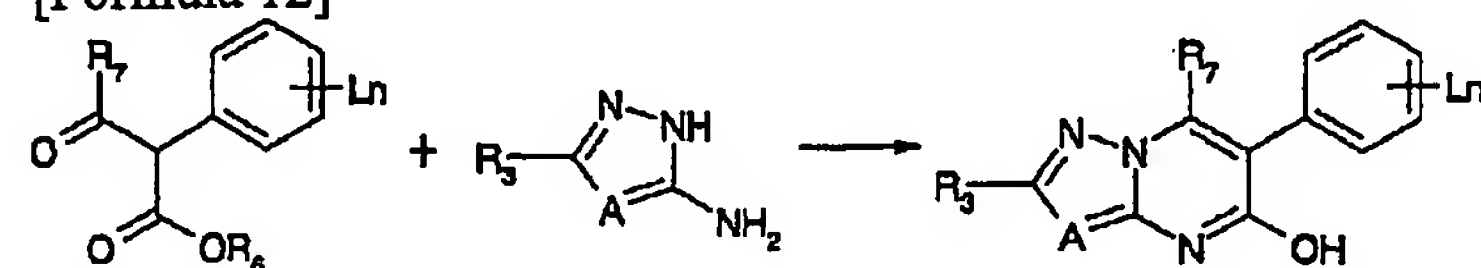
[0024] (A, R₂, R₃, R₄, L, and n express the same semantics as the above among a formula, R₁' expresses the radical expressed with said R₁ except a halogen atom, R₅ expresses a halogen atom, and X expresses metal atoms, such as magnesium with which the hydrogen atom, the halogen atom, or the halogen atom may be permuted, zinc, and copper.)

[0025] First, R₁ obtains the compound expressed with the general formula (4) which is a hydroxy group by making the compound expressed with a general formula (2) react with the compound expressed with a general formula (3). Subsequently, after R₁ obtains the compound (5) which is a halogen atom by halogenating the compound expressed with a general formula (4), R₁ can manufacture the compound expressed with the general formula (1-1) which is not a halogen atom by making the compound further expressed with a general formula (6) by the compound expressed with a general formula (5) react.

[0026] In addition, the method of acquiring a 5-hydroxy object is indicated by by making the compound whose R₂ is a methyl group, a cyclohexyl radical, etc., and the compound expressed with a general formula (3) react to said reference (WO 99/No. 41255 official report, USP. No. 5756590 official report) in the compound expressed with said general formula (2) (refer to the following reaction formula).

[0027]

[Formula 12]



[0028] (R₆ expresses an alkyl group among a formula, R₇ expresses cycloalkyl radicals, such as alkyl groups, such as a methyl group, or a cyclohexyl radical, and A, R₃, L, and n express the same semantics as the above.)

[0029] The reaction of the compound expressed with a general formula (2) and the compound expressed with a general formula (3) is a non-solvent among a solvent, and is preferably performed at 50-180 degrees C -50-200 degrees C for 1 to 48 hours. As a solvent used, carboxylic-acids [, such as amides; dimethyl sulfoxide; acetic acids /, such as an ether; acetonitrile, /, such as nitril; N.N-dimethylformamide (DMF) /, such as aromatic hydrocarbon; diethylether, such as amines; benzene, such as triethylamine and tributylamine, and toluene, a tetrahydrofuran (THF), and dioxane, and a propionic acid,]; etc. is mentioned, for example. Also in these, the activity of carboxylic acids, such as an acetic acid, is desirable.

[0030] Halogenation of a compound expressed with a general formula (4) is performed by making -50-150 degrees C of halogenating agents react to the compound expressed with a general formula (4) at 0-120 degrees C preferably for 1 to 48 hours. as a halogenating agent -- phosphorus oxychloride and oxy-one -- bromination -- Lynn etc. is used.

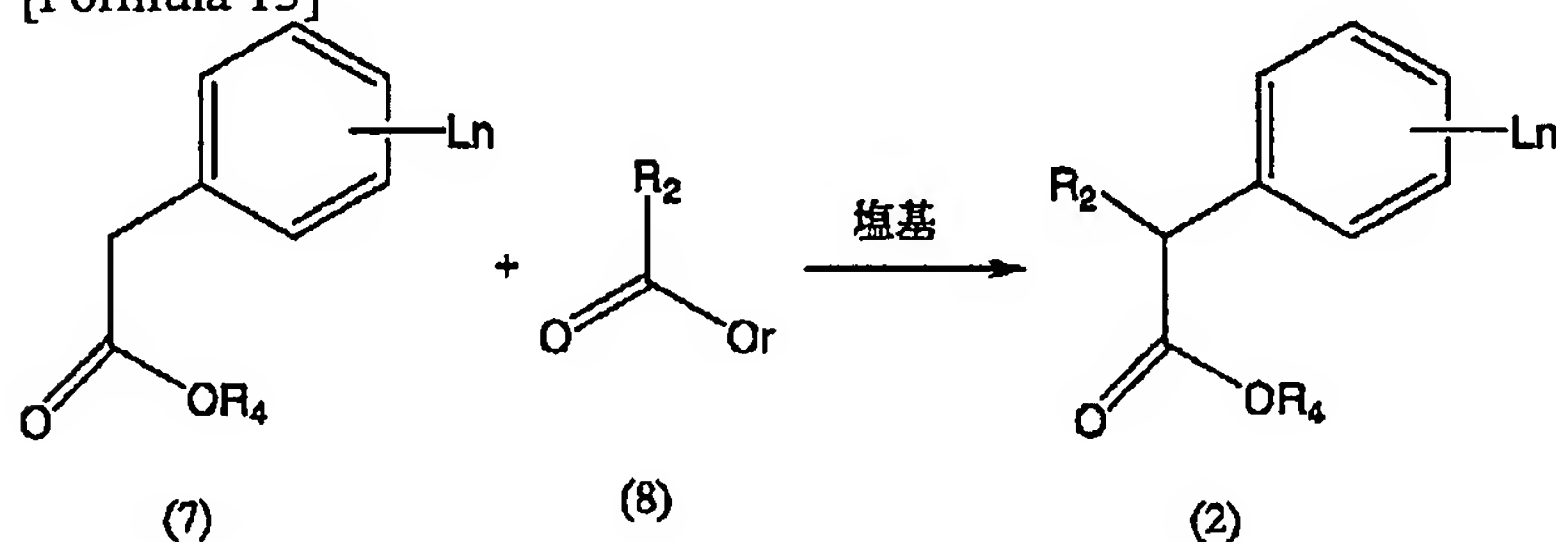
[0031] The compound expressed with a general formula (1-1) can be manufactured by making -50-150 degrees C of nucleophilicity agents expressed with a general formula (6) react to the compound expressed with a general formula (5) at 0 degree C - 100 degrees C preferably under existence of a base or a catalyst among a solvent. As a solvent used, amides; dimethyl sulfoxide;, such as nitril;DMF [, such as an ether; acetonitrile,], such as aromatic hydrocarbon; diethylether, such as benzene and toluene, THF, and dioxane, etc. is mentioned, for example. Also in these, the activity of ether, such as THF, is desirable.

[0032] As a base, metal salts, such as amines; silver carbonate [, such as inorganic base; triethylamine,], such as sodium hydride, potassium carbonate, and a sodium hydroxide, and a silver oxide, etc. are mentioned, for example. Also in these, the activity of amines, such as triethylamine, is desirable. Moreover, as a catalyst, organometallic complex [, such as mineral salt; tetrakis(triphenyl phosphine)palladium /, such as the 1st copper of iodation, a lithium chloride, and a zinc chloride /, 1, and 3-screw (diphenyl phosphino) propane nickel chloride,]; etc. is mentioned, for example.

[0033] The compound expressed with the general formula (2) used as a start raw material can be manufactured as follows, for example.

[0034]

[Formula 13]



[0035] (R2, R4, L, and n express the same semantics as the above among a formula, and r expresses C1-4 alkyl groups, such as a methyl group and an ethyl group.)

That is, the compound expressed with a general formula (2) can be obtained by making the phenylacetic-acid ester compound expressed with a general formula (7), and the halogeno acetic ester expressed with a general formula (8) react to the bottom of existence of a base.

[0036] as a base which can be used for a reaction, alkali-metal amides [, such as organic metal; lithium diisopropyl amides, such as metal alkoxide;n-butyl lithium, such as metal hydride; sodium methoxide, such as sodium hydride and potassium hydride, a potassium methoxide, a sodium ethoxide, potassium ethoxide, magnesium ethoxide, and potassium t-butoxide, sec-butyl lithium, and t-butyl lithium, and lithium hexa methyl JISHIRAJIDO,]; etc. is mentioned, for example.

[0037] Moreover, although there will be especially no limit if it is an inactive solvent as a solvent used for a reaction, the activity of the inert solvent which may dissolve a reactant is desirable. For example, amide system solvents, such as N.N-dimethylformamide, N, and N-dimethyl acetamido and hexa methyl phosphoric-acid phosphoroamido; mixed solvent [of ether system solvents /, such as a tetrahydrofuran, 1 2-dimethoxyethane and 1,4-dioxane /; or these solvents, and hydrocarbon system solvents, such as benzene, toluene, n-hexane, and a cyclohexane,]; etc. is mentioned.

[0038] A reaction advances smoothly in the temperature requirement by the boiling point of the solvent -78 degree-C- Used. By performing the usual after treatment, after reaction termination can obtain the compound expressed with a general formula (2), and it can be used for it as a start raw material of manufacture of the compound of this invention.

[0039] Also when which reaction is performed, after reaction termination can obtain the specified substance by

performing the usual after treatment. The structure of the compound of this invention can be determined from IR, NMR, a MASS spectrum, etc.

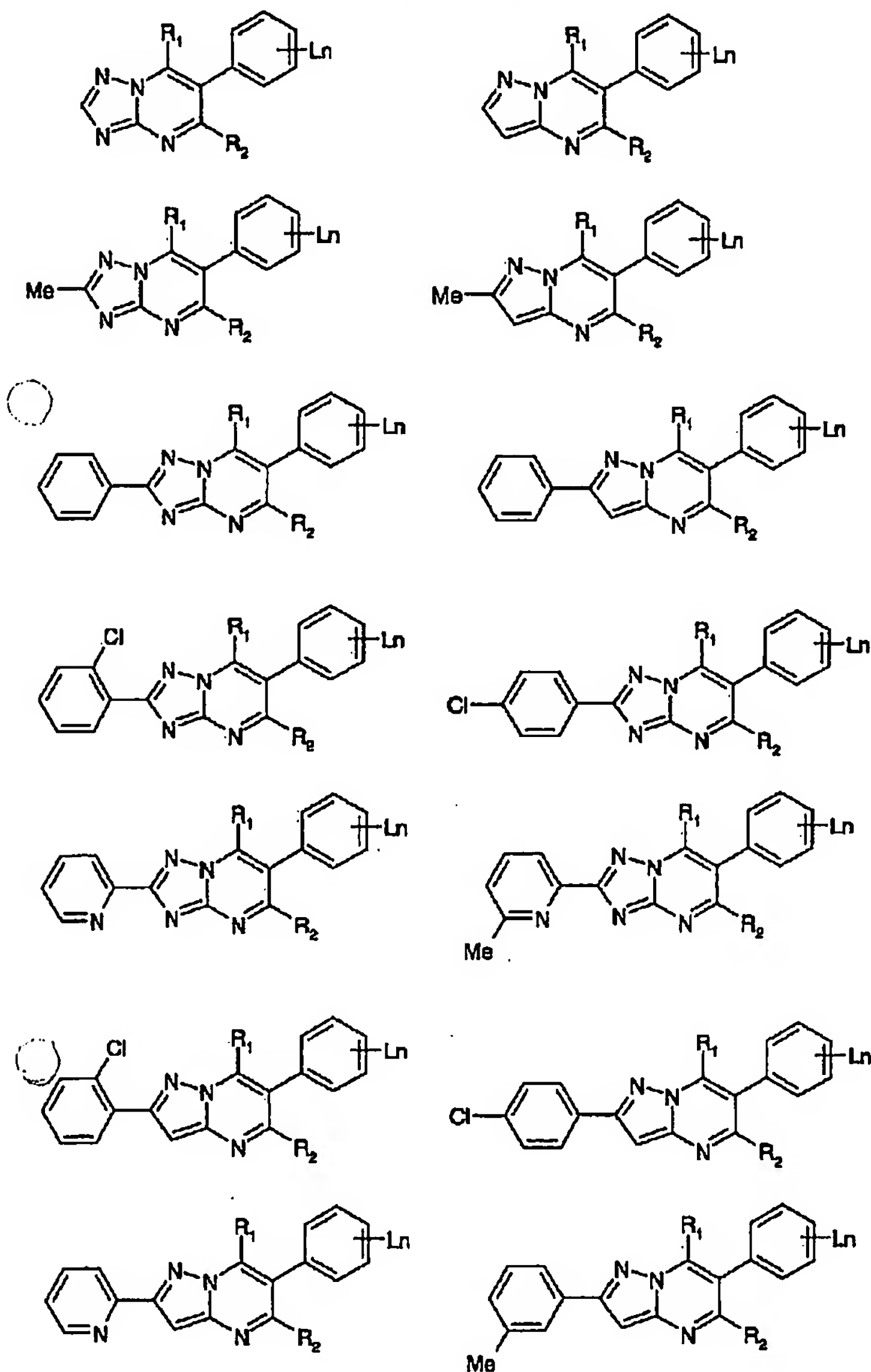
[0040] this invention compound obtained as mentioned above is illustrated to the 1st table. In addition, the code in the 1st table expresses following semantics, respectively.

Me: -- a methyl group, Et:ethyl group, Pr:propyl group, Bu:butyl, a Hex:hexyl group, and MeAl: -- in a methyl allyl group, a Mor:morpholino radical, a Pyr:2-pyridyl radical, a Pip:1-piperidiny radical, n:normal, i:ISO, c:cyclo, and the 1st table, the following compound boils R1, R2, L, and n, respectively, and they correspond.

[0041]

[A table 1]

第 1 表



[0042]

[A table 2]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	c-Hex	2-Cl	C ₂ F ₅	c-Hex	2-Cl
CHF ₂	c-Hex	2,4-Cl ₂	C ₂ F ₅	c-Hex	2,4-Cl ₂
CHF ₂	c-Hex	2,6-Cl ₂	C ₂ F ₅	c-Hex	2,6-Cl ₂
CHF ₂	c-Hex	2,4,6-Cl ₃	C ₂ F ₅	c-Hex	2,4,6-Cl ₃
CHF ₂	c-Hex	3-Cl	C ₂ F ₅	c-Hex	3-Cl
CHF ₂	c-Hex	2-F	C ₂ F ₅	c-Hex	2-F
CHF ₂	c-Hex	2,4-F ₂	C ₂ F ₅	c-Hex	2,4-F ₂
CHF ₂	c-Hex	2,6-F ₂	C ₂ F ₅	c-Hex	2,6-F ₂
CHF ₂	c-Hex	2,4,6-F ₃	C ₂ F ₅	c-Hex	2,4,6-F ₃
CHF ₂	c-Hex	3-F	C ₂ F ₅	c-Hex	3-F
CHF ₂	c-Hex	2-Me	C ₂ F ₅	c-Hex	2-Me
CHF ₂	c-Hex	2,4-Me ₂	C ₂ F ₅	c-Hex	2,4-Me ₂
CHF ₂	c-Hex	2,6-Me ₂	C ₂ F ₅	c-Hex	2,6-Me ₂
CHF ₂	c-Hex	2-Cl-6-F	C ₂ F ₅	c-Hex	2-Cl-6-F
CHF ₂	c-Hex	2,6-F ₂ -4-OMe	C ₂ F ₅	c-Hex	2,6-F ₂ -4-OMe
CHF ₂	c-Hex	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	c-Hex	2,6-F ₂ -4-OCF ₃
CHF ₂	c-Hex	2-Cl-6-F-4-OMe	C ₂ F ₅	c-Hex	2-Cl-6-F-4-OMe
CF ₃	c-Hex	2-Cl	CF ₂ Cl	c-Hex	2-Cl
CF ₃	c-Hex	2,4-Cl ₂	CF ₂ Cl	c-Hex	2,4-Cl ₂
CF ₃	c-Hex	2,6-Cl ₂	CF ₂ Cl	c-Hex	2,6-Cl ₂
CF ₃	c-Hex	2,4,6-Cl ₃	CF ₂ Cl	c-Hex	2,4,6-Cl ₃
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CF ₃	c-Hex	2,4-F ₂	CF ₂ Cl	c-Hex	2,4-F ₂
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CF ₃	c-Hex	3-F	CF ₂ Cl	c-Hex	3-F
CF ₃	c-Hex	2-Me	CF ₂ Cl	c-Hex	2-Me
CF ₃	c-Hex	2,4-Me ₂	CF ₂ Cl	c-Hex	2,4-Me ₂
CF ₃	c-Hex	2,6-Me ₂	CF ₂ Cl	c-Hex	2,6-Me ₂
CF ₃	c-Hex	2-Cl-6-F	CF ₂ Cl	c-Hex	2-Cl-6-F
CF ₃	c-Hex	2,6-F ₂ -4-OMe	CF ₂ Cl	c-Hex	2,6-F ₂ -4-OMe
CF ₃	c-Hex	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	c-Hex	2,6-F ₂ -4-OCF ₃
CF ₃	c-Hex	2-Cl-6-F-4-OMe	CF ₂ Cl	c-Hex	2-Cl-6-F-4-OMe
CH ₂ Cl	c-Hex	2-Cl	CH ₂ F	c-Hex	2-Cl
CH ₂ Cl	c-Hex	2,4-Cl ₂	CH ₂ F	c-Hex	2,4-Cl ₂

[0043]

[A table 3]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	c-Hex	2,6-Cl ₂	CH ₂ F	c-Hex	2,6-Cl ₂
CH ₂ Cl	c-Hex	2,4,6-Cl ₃	CH ₂ F	c-Hex	2,4,6-Cl ₃
CH ₂ Cl	c-Hex	3-Cl	CH ₂ F	c-Hex	3-Cl
CH ₂ Cl	c-Hex	2-F	CH ₂ F	c-Hex	2-F
CH ₂ Cl	c-Hex	2,4-F ₂	CH ₂ F	c-Hex	2,4-F ₂
CH ₂ Cl	c-Hex	2,6-F ₂	CH ₂ F	c-Hex	2,6-F ₂
CH ₂ Cl	c-Hex	2,4,6-F ₃	CH ₂ F	c-Hex	2,4,6-F ₃
CH ₂ Cl	c-Hex	3-F	CH ₂ F	c-Hex	3-F
CH ₂ Cl	c-Hex	2-Me	CH ₂ F	c-Hex	2-Me
CH ₂ Cl	c-Hex	2,4-Me ₂	CH ₂ F	c-Hex	2,4-Me ₂
CH ₂ Cl	c-Hex	2,6-Me ₂	CH ₂ F	c-Hex	2,6-Me ₂
CH ₂ Cl	c-Hex	2-Cl-6-F	CH ₂ F	c-Hex	2-Cl-6-F
CH ₂ Cl	c-Hex	2,6-F ₂ -4-OMe	CH ₂ F	c-Hex	2,6-F ₂ -4-OMe
CH ₂ Cl	c-Hex	2,6-F ₂ -4-OCF ₃	CH ₂ F	c-Hex	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	c-Hex	2-Cl-6-F-4-OMe	CH ₂ F	c-Hex	2-Cl-6-F-4-OMe
CHF ₂	Pip	2-Cl	C ₂ F ₅	Pip	2-Cl
CHF ₂	Pip	2,4-Cl ₂	C ₂ F ₅	Pip	2,4-Cl ₂
CHF ₂	Pip	2,6-Cl ₂	C ₂ F ₅	Pip	2,6-Cl ₂
CHF ₂	Pip	2,4,6-Cl ₃	C ₂ F ₅	Pip	2,4,6-Cl ₃
CHF ₂	Pip	3-Cl	C ₂ F ₆	Pip	3-Cl
CHF ₂	Pip	2-F	C ₂ F ₅	Pip	2-F
CHF ₂	Pip	2,4-F ₂	C ₂ F ₅	Pip	2,4-F ₂
CHF ₂	Pip	2,6-F ₂	C ₂ F ₆	Pip	2,6-F ₂
CHF ₂	Pip	2,4,6-F ₃	C ₂ F ₆	Pip	2,4,6-F ₃
CHF ₂	Pip	3-F	C ₂ F ₅	Pip	3-F
CHF ₂	Pip	2-Me	C ₂ F ₅	Pip	2-Me
CHF ₂	Pip	2,4-Me ₂	C ₂ F ₅	Pip	2,4-Me ₂
CHF ₂	Pip	2,6-Me ₂	C ₂ F ₅	Pip	2,6-Me ₂
CHF ₂	Pip	2-Cl-6-F	C ₂ F ₅	Pip	2-Cl-6-F
CHF ₂	Pip	2,6-F ₂ -4-OMe	C ₂ F ₅	Pip	2,6-F ₂ -4-OMe
CHF ₂	Pip	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	Pip	2,6-F ₂ -4-OCF ₃
CHF ₂	Pip	2-Cl-6-F-4-OMe	C ₂ F ₅	Pip	2-Cl-6-F-4-OMe
CF ₃	Pip	2-Cl	CF ₂ Cl	Pip	2-Cl
CF ₃	Pip	2,4-Cl ₂	CF ₂ Cl	Pip	2,4-Cl ₂
CF ₃	Pip	2,6-Cl ₂	CF ₂ Cl	Pip	2,6-Cl ₂
CF ₃	Pip	2,4,6-Cl ₃	CF ₂ Cl	Pip	2,4,6-Cl ₃

[0044]

[A table 4]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	Pip	3-Cl	CF ₂ Cl	Pip	3-Cl
CF ₃	Pip	2-F	CF ₂ Cl	Pip	2-F
CF ₃	Pip	2,4-F ₂	CF ₂ Cl	Pip	2,4-F ₂
CF ₃	Pip	2,6-F ₂	CF ₂ Cl	Pip	2,6-F ₂
CF ₃	Pip	2,4,6-F ₃	CF ₂ Cl	Pip	2,4,6-F ₃
CF ₃	Pip	3-F	CF ₂ Cl	Pip	3-F
CF ₃	Pip	2-Me	CF ₂ Cl	Pip	2-Me
CF ₃	Pip	2,4-Me ₂	CF ₂ Cl	Pip	2,4-Me ₂
CF ₃	Pip	2,6-Me ₂	CF ₂ Cl	Pip	2,6-Me ₂
CF ₃	Pip	2-Cl-6-F	CF ₂ Cl	Pip	2-Cl-6-F
CF ₃	Pip	2,6-F ₂ -4-OMe	CF ₂ Cl	Pip	2,6-F ₂ -4-OMe
CF ₃	Pip	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	Pip	2,6-F ₂ -4-OCF ₃
CF ₃	Pip	2-Cl-6-F-4-OMe	CF ₂ Cl	Pip	2-Cl-6-F-4-OMe
CH ₂ Cl	Pip	2-Cl	CH ₂ F	Pip	2-Cl
CH ₂ Cl	Pip	2,4-Cl ₂	CH ₂ F	Pip	2,4-Cl ₂
CH ₂ Cl	Pip	2,6-Cl ₂	CH ₂ F	Pip	2,6-Cl ₂
CH ₂ Cl	Pip	2,4,6-Cl ₃	CH ₂ F	Pip	2,4,6-Cl ₃
CH ₂ Cl	Pip	3-Cl	CH ₂ F	Pip	3-Cl
CH ₂ Cl	Pip	2-F	CH ₂ F	Pip	2-F
CH ₂ Cl	Pip	2,4-F ₂	CH ₂ F	Pip	2,4-F ₂
CH ₂ Cl	Pip	2,6-F ₂	CH ₂ F	Pip	2,6-F ₂
CH ₂ Cl	Pip	2,4,6-F ₃	CH ₂ F	Pip	2,4,6-F ₃
CH ₂ Cl	Pip	3-F	CH ₂ F	Pip	3-F
CH ₂ Cl	Pip	2-Me	CH ₂ F	Pip	2-Me
CH ₂ Cl	Pip	2,4-Me ₂	CH ₂ F	Pip	2,4-Me ₂
CH ₂ Cl	Pip	2,6-Me ₂	CH ₂ F	Pip	2,6-Me ₂
CH ₂ Cl	Pip	2-Cl-6-F	CH ₂ F	Pip	2-Cl-6-F
CH ₂ Cl	Pip	2,6-F ₂ -4-OMe	CH ₂ F	Pip	2,6-F ₂ -4-OMe
CH ₂ Cl	Pip	2,6-F ₂ -4-OCF ₃	CH ₂ F	Pip	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	Pip	2-Cl-6-F-4-OMe	CH ₂ F	Pip	2-Cl-6-F-4-OMe
CHF ₂	4-Me-Pip	2-Cl	C ₂ F ₅	4-Me-Pip	2-Cl
CHF ₂	4-Me-Pip	2,4-Cl ₂	C ₂ F ₅	4-Me-Pip	2,4-Cl ₂
CHF ₂	4-Me-Pip	2,6-Cl ₂	C ₂ F ₅	4-Me-Pip	2,6-Cl ₂
CHF ₂	4-Me-Pip	2,4,6-Cl ₃	C ₂ F ₅	4-Me-Pip	2,4,6-Cl ₃
CHF ₂	4-Me-Pip	3-Cl	C ₂ F ₅	4-Me-Pip	3-Cl
CHF ₂	4-Me-Pip	2-F	C ₂ F ₅	4-Me-Pip	2-F

[0045]

[A table 5]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	4-Me-Pip	2,4-F ₂	C ₂ F ₆	4-Me-Pip	2,4-F ₂
CHF ₂	4-Me-Pip	2,6-F ₂	C ₂ F ₅	4-Me-Pip	2,6-F ₂
CHF ₂	4-Me-Pip	2,4,6-F ₃	C ₂ F ₅	4-Me-Pip	2,4,6-F ₃
CHF ₂	4-Me-Pip	3-F	C ₂ F ₅	4-Me-Pip	3-F
CHF ₂	4-Me-Pip	2-Me	C ₂ F ₅	4-Me-Pip	2-Me
CHF ₂	4-Me-Pip	2,4-Me ₂	C ₂ F ₅	4-Me-Pip	2,4-Me ₂
CHF ₂	4-Me-Pip	2,6-Me ₂	C ₂ F ₅	4-Me-Pip	2,6-Me ₂
CHF ₂	4-Me-Pip	2-Cl-6-F	C ₂ F ₅	4-Me-Pip	2-Cl-6-F
CHF ₂	4-Me-Pip	2,6-F ₂ -4-OMe	C ₂ F ₅	4-Me-Pip	2,6-F ₂ -4-OMe
CHF ₂	4-Me-Pip	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	4-Me-Pip	2,6-F ₂ -4-OCF ₃
CHF ₂	4-Me-Pip	2-Cl-6-F-4-OMe	C ₂ F ₅	4-Me-Pip	2-Cl-6-F-4-OMe
CF ₃	4-Me-Pip	2-Cl	CF ₂ Cl	4-Me-Pip	2-Cl
CF ₃	4-Me-Pip	2,4-Cl ₂	CF ₂ Cl	4-Me-Pip	2,4-Cl ₂
CF ₃	4-Me-Pip	2,6-Cl ₂	CF ₂ Cl	4-Me-Pip	2,6-Cl ₂
CF ₃	4-Me-Pip	2,4,6-Cl ₃	CF ₂ Cl	4-Me-Pip	2,4,6-Cl ₃
CF ₃	4-Me-Pip	3-Cl	CF ₂ Cl	4-Me-Pip	3-Cl
CF ₃	4-Me-Pip	2-F	CF ₂ Cl	4-Me-Pip	2-F
CF ₃	4-Me-Pip	2,4-F ₂	CF ₂ Cl	4-Me-Pip	2,4-F ₂
CF ₃	4-Me-Pip	2,6-F ₂	CF ₂ Cl	4-Me-Pip	2,6-F ₂
CF ₃	4-Me-Pip	2,4,6-F ₃	CF ₂ Cl	4-Me-Pip	2,4,6-F ₃
CF ₃	4-Me-Pip	3-F	CF ₂ Cl	4-Me-Pip	3-F
CF ₃	4-Me-Pip	2-Me	CF ₂ Cl	4-Me-Pip	2-Me
CF ₃	4-Me-Pip	2,4-Me ₂	CF ₂ Cl	4-Me-Pip	2,4-Me ₂
CF ₃	4-Me-Pip	2,6-Me ₂	CF ₂ Cl	4-Me-Pip	2,6-Me ₂
CF ₃	4-Me-Pip	2-Cl-6-F	CF ₂ Cl	4-Me-Pip	2-Cl-6-F
CF ₃	4-Me-Pip	2,6-F ₂ -4-OMe	CF ₂ Cl	4-Me-Pip	2,6-F ₂ -4-OMe
CF ₃	4-Me-Pip	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	4-Me-Pip	2,6-F ₂ -4-OCF ₃
CF ₃	4-Me-Pip	2-Cl-6-F-4-OMe	CF ₂ Cl	4-Me-Pip	2-Cl-6-F-4-OMe
CH ₂ Cl	4-Me-Pip	2-Cl	CH ₂ F	4-Me-Pip	2-Cl
CH ₂ Cl	4-Me-Pip	2,4-Cl ₂	CH ₂ F	4-Me-Pip	2,4-Cl ₂
CH ₂ Cl	4-Me-Pip	2,6-Cl ₂	CH ₂ F	4-Me-Pip	2,6-Cl ₂
CH ₂ Cl	4-Me-Pip	2,4,6-Cl ₃	CH ₂ F	4-Me-Pip	2,4,6-Cl ₃
CH ₂ Cl	4-Me-Pip	3-Cl	CH ₂ F	4-Me-Pip	3-Cl
CH ₂ Cl	4-Me-Pip	2-F	CH ₂ F	4-Me-Pip	2-F
CH ₂ Cl	4-Me-Pip	2,4-F ₂	CH ₂ F	4-Me-Pip	2,4-F ₂
CH ₂ Cl	4-Me-Pip	2,6-F ₂	CH ₂ F	4-Me-Pip	2,6-F ₂

[0046]

[A table 6]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	4-Me-Pip	2,4,6-F ₃	CH ₂ F	4-Me-Pip	2,4,6-F ₃
CH ₂ Cl	4-Me-Pip	3-F	CH ₂ F	4-Me-Pip	3-F
CH ₂ Cl	4-Me-Pip	2-Me	CH ₂ F	4-Me-Pip	2-Me
CH ₂ Cl	4-Me-Pip	2,4-Me ₂	CH ₂ F	4-Me-Pip	2,4-Me ₂
CH ₂ Cl	4-Me-Pip	2,6-Me ₂	CH ₂ F	4-Me-Pip	2,6-Me ₂
CH ₂ Cl	4-Me-Pip	2-Cl-6-F	CH ₂ F	4-Me-Pip	2-Cl-6-F
CH ₂ Cl	4-Me-Pip	2,6-F ₂ -4-OMe	CH ₂ F	4-Me-Pip	2,6-F ₂ -4-OMe
CH ₂ Cl	4-Me-Pip	2,6-F ₂ -4-OCF ₃	CH ₂ F	4-Me-Pip	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	4-Me-Pip	2-Cl-6-F-4-OMe	CH ₂ F	4-Me-Pip	2-Cl-6-F-4-OMe
CHF ₂	Pyr	2-Cl	C ₂ F ₅	Pyr	2-Cl
CHF ₂	Pyr	2,4-Cl ₂	C ₂ F ₅	Pyr	2,4-Cl ₂
CHF ₂	Pyr	2,6-Cl ₂	C ₂ F ₅	Pyr	2,6-Cl ₂
CHF ₂	Pyr	2,4,6-Cl ₃	C ₂ F ₅	Pyr	2,4,6-Cl ₃
CHF ₂	Pyr	3-Cl	C ₂ F ₅	Pyr	3-Cl
CHF ₂	Pyr	2-F	C ₂ F ₅	Pyr	2-F
CHF ₂	Pyr	2,4-F ₂	C ₂ F ₅	Pyr	2,4-F ₂
CHF ₂	Pyr	2,6-F ₂	C ₂ F ₅	Pyr	2,6-F ₂
CHF ₂	Pyr	2,4,6-F ₃	C ₂ F ₅	Pyr	2,4,6-F ₃
CHF ₂	Pyr	3-F	C ₂ F ₅	Pyr	3-F
CHF ₂	Pyr	2-Me	C ₂ F ₅	Pyr	2-Me
CHF ₂	Pyr	2,4-Me ₂	C ₂ F ₅	Pyr	2,4-Me ₂
CHF ₂	Pyr	2,6-Me ₂	C ₂ F ₅	Pyr	2,6-Me ₂
CHF ₂	Pyr	2-Cl-6-F	C ₂ F ₅	Pyr	2-Cl-6-F
CHF ₂	Pyr	2,6-F ₂ -4-OMe	C ₂ F ₅	Pyr	2,6-F ₂ -4-OMe
CHF ₂	Pyr	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	Pyr	2,6-F ₂ -4-OCF ₃
CHF ₂	Pyr	2-Cl-6-F-4-OMe	C ₂ F ₅	Pyr	2-Cl-6-F-4-OMe
CF ₃	Pyr	2-Cl	CF ₂ Cl	Pyr	2-Cl
CF ₃	Pyr	2,4-Cl ₂	CF ₂ Cl	Pyr	2,4-Cl ₂
CF ₃	Pyr	2,6-Cl ₂	CF ₂ Cl	Pyr	2,6-Cl ₂
CF ₃	Pyr	2,4,6-Cl ₃	CF ₂ Cl	Pyr	2,4,6-Cl ₃
CF ₃	Pyr	3-Cl	CF ₂ Cl	Pyr	3-Cl
CF ₃	Pyr	2-F	CF ₂ Cl	Pyr	2-F
CF ₃	Pyr	2,4-F ₂	CF ₂ Cl	Pyr	2,4-F ₂
CF ₃	Pyr	2,6-F ₂	CF ₂ Cl	Pyr	2,6-F ₂
CF ₃	Pyr	2,4,6-F ₃	CF ₂ Cl	Pyr	2,4,6-F ₃
CF ₃	Pyr	3-F	CF ₂ Cl	Pyr	3-F

[0047]

[A table 7]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	Pyr	2-Me	CF ₂ Cl	Pyr	2-Me
CF ₃	Pyr	2,4-Me ₂	CF ₂ Cl	Pyr	2,4-Me ₂
CF ₃	Pyr	2,6-Me ₂	CF ₂ Cl	Pyr	2,6-Me ₂
CF ₃	Pyr	2-Cl-6-F	CF ₂ Cl	Pyr	2-Cl-6-F
CF ₃	Pyr	2,6-F ₂ -4-OMe	CF ₂ Cl	Pyr	2,6-F ₂ -4-OMe
CF ₃	Pyr	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	Pyr	2,6-F ₂ -4-OCF ₃
CF ₃	Pyr	2-Cl-6-F-4-OMe	CF ₂ Cl	Pyr	2-Cl-6-F-4-OMe
CH ₂ Cl	Pyr	2-Cl	CH ₂ F	Pyr	2-Cl
CH ₂ Cl	Pyr	2,4-Cl ₂	CH ₂ F	Pyr	2,4-Cl ₂
CH ₂ Cl	Pyr	2,6-Cl ₂	CH ₂ F	Pyr	2,6-Cl ₂
CH ₂ Cl	Pyr	2,4,6-Cl ₃	CH ₂ F	Pyr	2,4,6-Cl ₃
CH ₂ Cl	Pyr	3-Cl	CH ₂ F	Pyr	3-Cl
CH ₂ Cl	Pyr	2-F	CH ₂ F	Pyr	2-F
CH ₂ Cl	Pyr	2,4-F ₂	CH ₂ F	Pyr	2,4-F ₂
CH ₂ Cl	Pyr	2,6-F ₂	CH ₂ F	Pyr	2,6-F ₂
CH ₂ Cl	Pyr	2,4,6-F ₃	CH ₂ F	Pyr	2,4,6-F ₃
CH ₂ Cl	Pyr	3-F	CH ₂ F	Pyr	3-F
CH ₂ Cl	Pyr	2-Me	CH ₂ F	Pyr	2-Me
CH ₂ Cl	Pyr	2,4-Me ₂	CH ₂ F	Pyr	2,4-Me ₂
CH ₂ Cl	Pyr	2,6-Me ₂	CH ₂ F	Pyr	2,6-Me ₂
CH ₂ Cl	Pyr	2-Cl-6-F	CH ₂ F	Pyr	2-Cl-6-F
CH ₂ Cl	Pyr	2,6-F ₂ -4-OMe	CH ₂ F	Pyr	2,6-F ₂ -4-OMe
CH ₂ Cl	Pyr	2,6-F ₂ -4-OCF ₃	CH ₂ F	Pyr	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	Pyr	2-Cl-6-F-4-OMe	CH ₂ F	Pyr	2-Cl-6-F-4-OMe
CHF ₂	n-Bu	2-Cl	C ₂ F ₅	n-Bu	2-Cl
CHF ₂	n-Bu	2,4-Cl ₂	C ₂ F ₅	n-Bu	2,4-Cl ₂
CHF ₂	n-Bu	2,6-Cl ₂	C ₂ F ₅	n-Bu	2,6-Cl ₂
CHF ₂	n-Bu	2,4,6-Cl ₃	C ₂ F ₅	n-Bu	2,4,6-Cl ₃
CHF ₂	n-Bu	3-Cl	C ₂ F ₅	n-Bu	3-Cl
CHF ₂	n-Bu	2-F	C ₂ F ₅	n-Bu	2-F
CHF ₂	n-Bu	2,4-F ₂	C ₂ F ₅	n-Bu	2,4-F ₂
CHF ₂	n-Bu	2,6-F ₂	C ₂ F ₅	n-Bu	2,6-F ₂
CHF ₂	n-Bu	2,4,6-F ₃	C ₂ F ₅	n-Bu	2,4,6-F ₃
CHF ₂	n-Bu	3-F	C ₂ F ₅	n-Bu	3-F
CHF ₂	n-Bu	2-Me	C ₂ F ₅	n-Bu	2-Me
CHF ₂	n-Bu	2,4-Me ₂	C ₂ F ₅	n-Bu	2,4-Me ₂

[0048]

[A table 8]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	n-Bu	2,6-Me ₂	C ₂ F ₆	n-Bu	2,6-Me ₂
CHF ₂	n-Bu	2-Cl-6-F	C ₂ F ₅	n-Bu	2-Cl-6-F
CHF ₂	n-Bu	2,6-F ₂ -4-OMe	C ₂ F ₆	n-Bu	2,6-F ₂ -4-OMe
CHF ₂	n-Bu	2,6-F ₂ -4-OCF ₃	C ₂ F ₆	n-Bu	2,6-F ₂ -4-OCF ₃
CHF ₂	n-Bu	2-Cl-6-F-4-OMe	C ₂ F ₅	n-Bu	2-Cl-6-F-4-OMe
CF ₃	n-Bu	2-Cl	CF ₂ Cl	n-Bu	2-Cl
CF ₃	n-Bu	2,4-Cl ₂	CF ₂ Cl	n-Bu	2,4-Cl ₂
CF ₃	n-Bu	2,6-Cl ₂	CF ₂ Cl	n-Bu	2,6-Cl ₂
CF ₃	n-Bu	2,4,6-Cl ₃	CF ₂ Cl	n-Bu	2,4,6-Cl ₃
CF ₃	n-Bu	3-Cl	CF ₂ Cl	n-Bu	3-Cl
CF ₃	n-Bu	2-F	CF ₂ Cl	n-Bu	2-F
CF ₃	n-Bu	2,4-F ₂	CF ₂ Cl	n-Bu	2,4-F ₂
CF ₃	n-Bu	2,6-F ₂	CF ₂ Cl	n-Bu	2,6-F ₂
CF ₃	n-Bu	2,4,6-F ₃	CF ₂ Cl	n-Bu	2,4,6-F ₃
CF ₃	n-Bu	3-F	CF ₂ Cl	n-Bu	3-F
CF ₃	n-Bu	2-Me	CF ₂ Cl	n-Bu	2-Me
CF ₃	n-Bu	2,4-Me ₂	CF ₂ Cl	n-Bu	2,4-Me ₂
CF ₃	n-Bu	2,6-Me ₂	CF ₂ Cl	n-Bu	2,6-Me ₂
CF ₃	n-Bu	2-Cl-6-F	CF ₂ Cl	n-Bu	2-Cl-6-F
CF ₃	n-Bu	2,6-F ₂ -4-OMe	CF ₂ Cl	n-Bu	2,6-F ₂ -4-OMe
CF ₃	n-Bu	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	n-Bu	2,6-F ₂ -4-OCF ₃
CF ₃	n-Bu	2-Cl-6-F-4-OMe	CF ₂ Cl	n-Bu	2-Cl-6-F-4-OMe
CH ₂ Cl	n-Bu	2-Cl	CH ₂ F	n-Bu	2-Cl
CH ₂ Cl	n-Bu	2,4-Cl ₂	CH ₂ F	n-Bu	2,4-Cl ₂
CH ₂ Cl	n-Bu	2,6-Cl ₂	CH ₂ F	n-Bu	2,6-Cl ₂
CH ₂ Cl	n-Bu	2,4,6-Cl ₃	CH ₂ F	n-Bu	2,4,6-Cl ₃
CH ₂ Cl	n-Bu	3-Cl	CH ₂ F	n-Bu	3-Cl
CH ₂ Cl	n-Bu	2-F	CH ₂ F	n-Bu	2-F
CH ₂ Cl	n-Bu	2,4-F ₂	CH ₂ F	n-Bu	2,4-F ₂
CH ₂ Cl	n-Bu	2,6-F ₂	CH ₂ F	n-Bu	2,6-F ₂
CH ₂ Cl	n-Bu	2,4,6-F ₃	CH ₂ F	n-Bu	2,4,6-F ₃
CH ₂ Cl	n-Bu	3-F	CH ₂ F	n-Bu	3-F
CH ₂ Cl	n-Bu	2-Me	CH ₂ F	n-Bu	2-Me
CH ₂ Cl	n-Bu	2,4-Me ₂	CH ₂ F	n-Bu	2,4-Me ₂
CH ₂ Cl	n-Bu	2,6-Me ₂	CH ₂ F	n-Bu	2,6-Me ₂
CH ₂ Cl	n-Bu	2-Cl-6-F	CH ₂ F	n-Bu	2-Cl-6-F

[0049]

[A table 9]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	n-Bu	2,6-F ₂ -4-OMe	CH ₂ F	n-Bu	2,6-F ₂ -4-OMe
CH ₂ Cl	n-Bu	2,6-F ₂ -4-OCF ₃	CH ₂ F	n-Bu	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	n-Bu	2-Cl-6-F-4-OMe	CH ₂ F	n-Bu	2-Cl-6-F-4-OMe
CHF ₂	CF ₃ CH ₂ NH	2-Cl	C ₂ F ₆	CF ₃ CH ₂ NH	2-Cl
CHF ₂	CF ₃ CH ₂ NH	2,4-Cl ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,4-Cl ₂
CHF ₂	CF ₃ CH ₂ NH	2,6-Cl ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-Cl ₂
CHF ₂	CF ₃ CH ₂ NH	2,4,6-Cl ₃	C ₂ F ₅	CF ₃ CH ₂ NH	2,4,6-Cl ₃
CHF ₂	CF ₃ CH ₂ NH	3-Cl	C ₂ F ₅	CF ₃ CH ₂ NH	3-Cl
CHF ₂	CF ₃ CH ₂ NH	2-F	C ₂ F ₅	CF ₃ CH ₂ NH	2-F
CHF ₂	CF ₃ CH ₂ NH	2,4-F ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,4-F ₂
CHF ₂	CF ₃ CH ₂ NH	2,6-F ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-F ₂
CHF ₂	CF ₃ CH ₂ NH	2,4,6-F ₃	C ₂ F ₅	CF ₃ CH ₂ NH	2,4,6-F ₃
CHF ₂	CF ₃ CH ₂ NH	3-F	C ₂ F ₅	CF ₃ CH ₂ NH	3-F
CHF ₂	CF ₃ CH ₂ NH	2-Me	C ₂ F ₅	CF ₃ CH ₂ NH	2-Me
CHF ₂	CF ₃ CH ₂ NH	2,4-Me ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,4-Me ₂
CHF ₂	CF ₃ CH ₂ NH	2,6-Me ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-Me ₂
CHF ₂	CF ₃ CH ₂ NH	2-Cl-6-F	C ₂ F ₅	CF ₃ CH ₂ NH	2-Cl-6-F
CHF ₂	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe
CHF ₂	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃
CHF ₂	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe	C ₂ F ₅	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe
CF ₃	CF ₃ CH ₂ NH	2-Cl	CF ₂ Cl	CF ₃ CH ₂ NH	2-Cl
CF ₃	CF ₃ CH ₂ NH	2,4-Cl ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,4-Cl ₂
CF ₃	CF ₃ CH ₂ NH	2,6-Cl ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-Cl ₂
CF ₃	CF ₃ CH ₂ NH	2,4,6-Cl ₃	CF ₂ Cl	CF ₃ CH ₂ NH	2,4,6-Cl ₃
CF ₃	CF ₃ CH ₂ NH	3-Cl	CF ₂ Cl	CF ₃ CH ₂ NH	3-Cl
CF ₃	CF ₃ CH ₂ NH	2-F	CF ₂ Cl	CF ₃ CH ₂ NH	2-F
CF ₃	CF ₃ CH ₂ NH	2,4-F ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,4-F ₂
CF ₃	CF ₃ CH ₂ NH	2,6-F ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂
CF ₃	CF ₃ CH ₂ NH	2,4,6-F ₃	CF ₂ Cl	CF ₃ CH ₂ NH	2,4,6-F ₃
CF ₃	CF ₃ CH ₂ NH	3-F	CF ₂ Cl	CF ₃ CH ₂ NH	3-F
CF ₃	CF ₃ CH ₂ NH	2-Me	CF ₂ Cl	CF ₃ CH ₂ NH	2-Me
CF ₃	CF ₃ CH ₂ NH	2,4-Me ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,4-Me ₂
CF ₃	CF ₃ CH ₂ NH	2,6-Me ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-Me ₂
CF ₃	CF ₃ CH ₂ NH	2-Cl-6-F	CF ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F
CF ₃	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe
CF ₃	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃

[0050]

[A table 10]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe	CF ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe
CH ₂ Cl	CF ₃ CH ₂ NH	2-Cl	CH ₂ F	CF ₃ CH ₂ NH	2-Cl
CH ₂ Cl	CF ₃ CH ₂ NH	2,4-Cl ₂	CH ₂ F	CF ₃ CH ₂ NH	2,4-Cl ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-Cl ₂	CH ₂ F	CF ₃ CH ₂ NH	2,6-Cl ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,4,6-Cl ₃	CH ₂ F	CF ₃ CH ₂ NH	2,4,6-Cl ₃
CH ₂ Cl	CF ₃ CH ₂ NH	3-Cl	CH ₂ F	CF ₃ CH ₂ NH	3-Cl
CH ₂ Cl	CF ₃ CH ₂ NH	2-F	CH ₂ F	CF ₃ CH ₂ NH	2-F
CH ₂ Cl	CF ₃ CH ₂ NH	2,4-F ₂	CH ₂ F	CF ₃ CH ₂ NH	2,4-F ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂	CH ₂ F	CF ₃ CH ₂ NH	2,6-F ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,4,6-F ₃	CH ₂ F	CF ₃ CH ₂ NH	2,4,6-F ₃
CH ₂ Cl	CF ₃ CH ₂ NH	3-F	CH ₂ F	CF ₃ CH ₂ NH	3-F
CH ₂ Cl	CF ₃ CH ₂ NH	2-Me	CH ₂ F	CF ₃ CH ₂ NH	2-Me
CH ₂ Cl	CF ₃ CH ₂ NH	2,4-Me ₂	CH ₂ F	CF ₃ CH ₂ NH	2,4-Me ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-Me ₂	CH ₂ F	CF ₃ CH ₂ NH	2,6-Me ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F	CH ₂ F	CF ₃ CH ₂ NH	2-Cl-6-F
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe	CH ₂ F	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃	CH ₂ F	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe	CH ₂ F	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe
CHF ₂	CF ₃ (Me)CHNH	2-Cl	C ₂ F ₅	CF ₃ (Me)CHNH	2-Cl
CHF ₂	CF ₃ (Me)CHNH	2,4-Cl ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,4-Cl ₂
CHF ₂	CF ₃ (Me)CHNH	2,6-Cl ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-Cl ₂
CHF ₂	CF ₃ (Me)CHNH	2,4,6-Cl ₃	C ₂ F ₅	CF ₃ (Me)CHNH	2,4,6-Cl ₃
CHF ₂	CF ₃ (Me)CHNH	3-Cl	C ₂ F ₅	CF ₃ (Me)CHNH	3-Cl
CHF ₂	CF ₃ (Me)CHNH	2-F	C ₂ F ₅	CF ₃ (Me)CHNH	2-F
CHF ₂	CF ₃ (Me)CHNH	2,4-F ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,4-F ₂
CHF ₂	CF ₃ (Me)CHNH	2,6-F ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-F ₂
CHF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃	C ₂ F ₅	CF ₃ (Me)CHNH	2,4,6-F ₃
CHF ₂	CF ₃ (Me)CHNH	3-F	C ₂ F ₅	CF ₃ (Me)CHNH	3-F
CHF ₂	CF ₃ (Me)CHNH	2-Me	C ₂ F ₅	CF ₃ (Me)CHNH	2-Me
CHF ₂	CF ₃ (Me)CHNH	2,4-Me ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,4-Me ₂
CHF ₂	CF ₃ (Me)CHNH	2,6-Me ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-Me ₂
CHF ₂	CF ₃ (Me)CHNH	2-Cl-6-F	C ₂ F ₅	CF ₃ (Me)CHNH	2-Cl-6-F
CHF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CHF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃
CHF ₂	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe	C ₂ F ₅	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe
CF ₃	CF ₃ (Me)CHNH	2-Cl	CF ₂ Cl	CF ₃ (Me)CHNH	2-Cl

[0051]

[A table 11]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	CF ₃ (Me)CHNH	2,4-Cl ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,4-Cl ₂
CF ₃	CF ₃ (Me)CHNH	2,6-Cl ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-Cl ₂
CF ₃	CF ₃ (Me)CHNH	2,4,6-Cl ₃	CF ₂ Cl	CF ₃ (Me)CHNH	2,4,6-Cl ₃
CF ₃	CF ₃ (Me)CHNH	3-Cl	CF ₂ Cl	CF ₃ (Me)CHNH	3-Cl
CF ₃	CF ₃ (Me)CHNH	2-F	CF ₂ Cl	CF ₃ (Me)CHNH	2-F
CF ₃	CF ₃ (Me)CHNH	2,4-F ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,4-F ₂
CF ₃	CF ₃ (Me)CHNH	2,6-F ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂
CF ₃	CF ₃ (Me)CHNH	2,4,6-F ₃	CF ₂ Cl	CF ₃ (Me)CHNH	2,4,6-F ₃
CF ₃	CF ₃ (Me)CHNH	3-F	CF ₂ Cl	CF ₃ (Me)CHNH	3-F
CF ₃	CF ₃ (Me)CHNH	2-Me	CF ₂ Cl	CF ₃ (Me)CHNH	2-Me
CF ₃	CF ₃ (Me)CHNH	2,4-Me ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,4-Me ₂
CF ₃	CF ₃ (Me)CHNH	2,6-Me ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-Me ₂
CF ₃	CF ₃ (Me)CHNH	2-Cl-6-F	CF ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F
CF ₃	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CF ₃	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃
CF ₃	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe	CF ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe
CH ₂ Cl	CF ₃ (Me)CHNH	2-Cl	CH ₂ F	CF ₃ (Me)CHNH	2-Cl
CH ₂ Cl	CF ₃ (Me)CHNH	2,4-Cl ₂	CH ₂ F	CF ₃ (Me)CHNH	2,4-Cl ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-Cl ₂	CH ₂ F	CF ₃ (Me)CHNH	2,6-Cl ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,4,6-Cl ₃	CH ₂ F	CF ₃ (Me)CHNH	2,4,6-Cl ₃
CH ₂ Cl	CF ₃ (Me)CHNH	3-Cl	CH ₂ F	CF ₃ (Me)CHNH	3-Cl
CH ₂ Cl	CF ₃ (Me)CHNH	2-F	CH ₂ F	CF ₃ (Me)CHNH	2-F
CH ₂ Cl	CF ₃ (Me)CHNH	2,4-F ₂	CH ₂ F	CF ₃ (Me)CHNH	2,4-F ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂	CH ₂ F	CF ₃ (Me)CHNH	2,6-F ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,4,6-F ₃	CH ₂ F	CF ₃ (Me)CHNH	2,4,6-F ₃
CH ₂ Cl	CF ₃ (Me)CHNH	3-F	CH ₂ F	CF ₃ (Me)CHNH	3-F
CH ₂ Cl	CF ₃ (Me)CHNH	2-Me	CH ₂ F	CF ₃ (Me)CHNH	2-Me
CH ₂ Cl	CF ₃ (Me)CHNH	2,4-Me ₂	CH ₂ F	CF ₃ (Me)CHNH	2,4-Me ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-Me ₂	CH ₂ F	CF ₃ (Me)CHNH	2,6-Me ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F	CH ₂ F	CF ₃ (Me)CHNH	2-Cl-6-F
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	CH ₂ F	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe	CH ₂ F	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe
CHF ₂	c-PenNH	2-Cl	C ₂ F ₅	c-PenNH	2-Cl
CHF ₂	c-PenNH	2,4-Cl ₂	C ₂ F ₅	c-PenNH	2,4-Cl ₂
CHF ₂	c-PenNH	2,6-Cl ₂	C ₂ F ₅	c-PenNH	2,6-Cl ₂

[0052]

[A table 12]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	c-PenNH	2,4,6-Cl ₃	C ₂ F ₅	c-PenNH	2,4,6-Cl ₃
CHF ₂	c-PenNH	3-Cl	C ₂ F ₅	c-PenNH	3-Cl
CHF ₂	c-PenNH	2-F	C ₂ F ₅	c-PenNH	2-F
CHF ₂	c-PenNH	2,4-F ₂	C ₂ F ₅	c-PenNH	2,4-F ₂
CHF ₂	c-PenNH	2,6-F ₂	C ₂ F ₅	c-PenNH	2,6-F ₂
CHF ₂	c-PenNH	2,4,6-F ₃	C ₂ F ₅	c-PenNH	2,4,6-F ₃
CHF ₂	c-PenNH	3-F	C ₂ F ₅	c-PenNH	3-F
CHF ₂	c-PenNH	2-Me	C ₂ F ₅	c-PenNH	2-Me
CHF ₂	c-PenNH	2,4-Me ₂	C ₂ F ₅	c-PenNH	2,4-Me ₂
CHF ₂	c-PenNH	2,6-Me ₂	C ₂ F ₅	c-PenNH	2,6-Me ₂
CHF ₂	c-PenNH	2-Cl-6-F	C ₂ F ₅	c-PenNH	2-Cl-6-F
CHF ₂	c-PenNH	2,6-F ₂ -4-OMe	C ₂ F ₅	c-PenNH	2,6-F ₂ -4-OMe
CHF ₂	c-PenNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	c-PenNH	2,6-F ₂ -4-OCF ₃
CHF ₂	c-PenNH	2-Cl-6-F-4-OMe	C ₂ F ₅	c-PenNH	2-Cl-6-F-4-OMe
CF ₃	c-PenNH	2-Cl	CF ₂ Cl	c-PenNH	2-Cl
CF ₃	c-PenNH	2,4-Cl ₂	CF ₂ Cl	c-PenNH	2,4-Cl ₂
CF ₃	c-PenNH	2,6-Cl ₂	CF ₂ Cl	c-PenNH	2,6-Cl ₂
CF ₃	c-PenNH	2,4,6-Cl ₃	CF ₂ Cl	c-PenNH	2,4,6-Cl ₃
CF ₃	c-PenNH	3-Cl	CF ₂ Cl	c-PenNH	3-Cl
CF ₃	c-PenNH	2-F	CF ₂ Cl	c-PenNH	2-F
CF ₃	c-PenNH	2,4-F ₂	CF ₂ Cl	c-PenNH	2,4-F ₂
CF ₃	c-PenNH	2,6-F ₂	CF ₂ Cl	c-PenNH	2,6-F ₂
CF ₃	c-PenNH	2,4,6-F ₃	CF ₂ Cl	c-PenNH	2,4,6-F ₃
CF ₃	c-PenNH	3-F	CF ₂ Cl	c-PenNH	3-F
CF ₃	c-PenNH	2-Me	CF ₂ Cl	c-PenNH	2-Me
CF ₃	c-PenNH	2,4-Me ₂	CF ₂ Cl	c-PenNH	2,4-Me ₂
CF ₃	c-PenNH	2,6-Me ₂	CF ₂ Cl	c-PenNH	2,6-Me ₂
CF ₃	c-PenNH	2-Cl-6-F	CF ₂ Cl	c-PenNH	2-Cl-6-F
CF ₃	c-PenNH	2,6-F ₂ -4-OMe	CF ₂ Cl	c-PenNH	2,6-F ₂ -4-OMe
CF ₃	c-PenNH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	c-PenNH	2,6-F ₂ -4-OCF ₃
CF ₃	c-PenNH	2-Cl-6-F-4-OMe	CF ₂ Cl	c-PenNH	2-Cl-6-F-4-OMe
CH ₂ Cl	c-PenNH	2-Cl	CH ₂ F	c-PenNH	2-Cl
CH ₂ Cl	c-PenNH	2,4-Cl ₂	CH ₂ F	c-PenNH	2,4-Cl ₂
CH ₂ Cl	c-PenNH	2,6-Cl ₂	CH ₂ F	c-PenNH	2,6-Cl ₂
CH ₂ Cl	c-PenNH	2,4,6-Cl ₃	CH ₂ F	c-PenNH	2,4,6-Cl ₃
CH ₂ Cl	c-PenNH	3-Cl	CH ₂ F	c-PenNH	3-Cl

[0053]

[A table 13]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	o-PenNH	2-F	CH ₂ F	o-PenNH	2-F
CH ₂ Cl	o-PenNH	2,4-F ₂	CH ₂ F	o-PenNH	2,4-F ₂
CH ₂ Cl	o-PenNH	2,6-F ₂	CH ₂ F	o-PenNH	2,6-F ₂
CH ₂ Cl	o-PenNH	2,4,6-F ₃	CH ₂ F	o-PenNH	2,4,6-F ₃
CH ₂ Cl	o-PenNH	3-F	CH ₂ F	o-PenNH	3-F
CH ₂ Cl	o-PenNH	2-Me	CH ₂ F	o-PenNH	2-Me
CH ₂ Cl	o-PenNH	2,4-Me ₂	CH ₂ F	o-PenNH	2,4-Me ₂
CH ₂ Cl	o-PenNH	2,6-Me ₂	CH ₂ F	o-PenNH	2,6-Me ₂
CH ₂ Cl	o-PenNH	2-Cl-6-F	CH ₂ F	o-PenNH	2-Cl-6-F
CH ₂ Cl	o-PenNH	2,6-F ₂ -4-OMe	CH ₂ F	o-PenNH	2,6-F ₂ -4-OMe
CH ₂ Cl	o-PenNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	o-PenNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	o-PenNH	2-Cl-6-F-4-OMe	CH ₂ F	o-PenNH	2-Cl-6-F-4-OMe
CHF ₂	iso-PrNH	2-Cl	C ₂ F ₅	iso-PrNH	2-Cl
CHF ₂	iso-PrNH	2,4-Cl ₂	C ₂ F ₅	iso-PrNH	2,4-Cl ₂
CHF ₂	iso-PrNH	2,6-Cl ₂	C ₂ F ₅	iso-PrNH	2,6-Cl ₂
CHF ₂	iso-PrNH	2,4,6-Cl ₃	C ₂ F ₅	iso-PrNH	2,4,6-Cl ₃
CHF ₂	iso-PrNH	3-Cl	C ₂ F ₅	iso-PrNH	3-Cl
CHF ₂	iso-PrNH	2-F	C ₂ F ₅	iso-PrNH	2-F
CHF ₂	iso-PrNH	2,4-F ₂	C ₂ F ₅	iso-PrNH	2,4-F ₂
CHF ₂	iso-PrNH	2,6-F ₂	C ₂ F ₅	iso-PrNH	2,6-F ₂
CHF ₂	iso-PrNH	2,4,6-F ₃	C ₂ F ₅	iso-PrNH	2,4,6-F ₃
CHF ₂	iso-PrNH	3-F	C ₂ F ₅	iso-PrNH	3-F
CHF ₂	iso-PrNH	2-Me	C ₂ F ₅	iso-PrNH	2-Me
CHF ₂	iso-PrNH	2,4-Me ₂	C ₂ F ₅	iso-PrNH	2,4-Me ₂
CHF ₂	iso-PrNH	2,6-Me ₂	C ₂ F ₅	iso-PrNH	2,6-Me ₂
CHF ₂	iso-PrNH	2-Cl-6-F	C ₂ F ₅	iso-PrNH	2-Cl-6-F
CHF ₂	iso-PrNH	2,6-F ₂ -4-OMe	C ₂ F ₅	iso-PrNH	2,6-F ₂ -4-OMe
CHF ₂	iso-PrNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	iso-PrNH	2,6-F ₂ -4-OCF ₃
CHF ₂	iso-PrNH	2-Cl-6-F-4-OMe	C ₂ F ₅	iso-PrNH	2-Cl-6-F-4-OMe
CF ₃	iso-PrNH	2-Cl	CF ₂ Cl	iso-PrNH	2-Cl
CF ₃	iso-PrNH	2,4-Cl ₂	CF ₂ Cl	iso-PrNH	2,4-Cl ₂
CF ₃	iso-PrNH	2,6-Cl ₂	CF ₂ Cl	iso-PrNH	2,6-Cl ₂
CF ₃	iso-PrNH	2,4,6-Cl ₃	CF ₂ Cl	iso-PrNH	2,4,6-Cl ₃
CF ₃	iso-PrNH	3-Cl	CF ₂ Cl	iso-PrNH	3-Cl
CF ₃	iso-PrNH	2-F	CF ₂ Cl	iso-PrNH	2-F
CF ₃	iso-PrNH	2,4-F ₂	CF ₂ Cl	iso-PrNH	2,4-F ₂

[0054]

[A table 14]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	iso-PrNH	2,6-F ₂	CF ₂ Cl	iso-PrNH	2,6-F ₂
CF ₃	iso-PrNH	2,4,6-F ₃	CF ₂ Cl	iso-PrNH	2,4,6-F ₃
CF ₃	iso-PrNH	3-F	CF ₂ Cl	iso-PrNH	3-F
CF ₃	iso-PrNH	2-Me	CF ₂ Cl	iso-PrNH	2-Me
CF ₃	iso-PrNH	2,4-Me ₂	CF ₂ Cl	iso-PrNH	2,4-Me ₂
CF ₃	iso-PrNH	2,6-Me ₂	CF ₂ Cl	iso-PrNH	2,6-Me ₂
CF ₃	iso-PrNH	2-Cl-6-F	CF ₂ Cl	iso-PrNH	2-Cl-6-F
CF ₃	iso-PrNH	2,6-F ₂ -4-OMe	CF ₂ Cl	iso-PrNH	2,6-F ₂ -4-OMe
CF ₃	iso-PrNH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	iso-PrNH	2,6-F ₂ -4-OCF ₃
CF ₃	iso-PrNH	2-Cl-6-F-4-OMe	CF ₂ Cl	iso-PrNH	2-Cl-6-F-4-OMe
CH ₂ Cl	iso-PrNH	2-Cl	CH ₂ F	iso-PrNH	2-Cl
CH ₂ Cl	iso-PrNH	2,4-Cl ₂	CH ₂ F	iso-PrNH	2,4-Cl ₂
CH ₂ Cl	iso-PrNH	2,6-Cl ₂	CH ₂ F	iso-PrNH	2,6-Cl ₂
CH ₂ Cl	iso-PrNH	2,4,6-Cl ₃	CH ₂ F	iso-PrNH	2,4,6-Cl ₃
CH ₂ Cl	iso-PrNH	3-Cl	CH ₂ F	iso-PrNH	3-Cl
CH ₂ Cl	iso-PrNH	2-F	CH ₂ F	iso-PrNH	2-F
CH ₂ Cl	iso-PrNH	2,4-F ₂	CH ₂ F	iso-PrNH	2,4-F ₂
CH ₂ Cl	iso-PrNH	2,6-F ₂	CH ₂ F	iso-PrNH	2,6-F ₂
CH ₂ Cl	iso-PrNH	2,4,6-F ₃	CH ₂ F	iso-PrNH	2,4,6-F ₃
CH ₂ Cl	iso-PrNH	3-F	CH ₂ F	iso-PrNH	3-F
CH ₂ Cl	iso-PrNH	2-Me	CH ₂ F	iso-PrNH	2-Me
CH ₂ Cl	iso-PrNH	2,4-Me ₂	CH ₂ F	iso-PrNH	2,4-Me ₂
CH ₂ Cl	iso-PrNH	2,6-Me ₂	CH ₂ F	iso-PrNH	2,6-Me ₂
CH ₂ Cl	iso-PrNH	2-Cl-6-F	CH ₂ F	iso-PrNH	2-Cl-6-F
CH ₂ Cl	iso-PrNH	2,6-F ₂ -4-OMe	CH ₂ F	iso-PrNH	2,6-F ₂ -4-OMe
CH ₂ Cl	iso-PrNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	iso-PrNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	iso-PrNH	2-Cl-6-F-4-OMe	CH ₂ F	iso-PrNH	2-Cl-6-F-4-OMe
CHF ₂	sec-BuNH	2-Cl	C ₂ F ₅	sec-BuNH	2-Cl
CHF ₂	sec-BuNH	2,4-Cl ₂	C ₂ F ₅	sec-BuNH	2,4-Cl ₂
CHF ₂	sec-BuNH	2,6-Cl ₂	C ₂ F ₅	sec-BuNH	2,6-Cl ₂
CHF ₂	sec-BuNH	2,4,6-Cl ₃	C ₂ F ₅	sec-BuNH	2,4,6-Cl ₃
CHF ₂	sec-BuNH	3-Cl	C ₂ F ₅	sec-BuNH	3-Cl
CHF ₂	sec-BuNH	2-F	C ₂ F ₅	sec-BuNH	2-F
CHF ₂	sec-BuNH	2,4-F ₂	C ₂ F ₅	sec-BuNH	2,4-F ₂
CHF ₂	sec-BuNH	2,6-F ₂	C ₂ F ₅	sec-BuNH	2,6-F ₂
CHF ₂	sec-BuNH	2,4,6-F ₃	C ₂ F ₅	sec-BuNH	2,4,6-F ₃

[0055]

[A table 15]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	sec-BuNH	3-F	C ₂ F ₅	sec-BuNH	3-F
CHF ₂	sec-BuNH	2-Me	C ₂ F ₅	sec-BuNH	2-Me
CHF ₂	sec-BuNH	2,4-Me ₂	C ₂ F ₅	sec-BuNH	2,4-Me ₂
CHF ₂	sec-BuNH	2,6-Me ₂	C ₂ F ₅	sec-BuNH	2,6-Me ₂
CHF ₂	sec-BuNH	2-Cl-6-F	C ₂ F ₅	sec-BuNH	2-Cl-6-F
CHF ₂	sec-BuNH	2,6-F ₂ -4-OMe	C ₂ F ₅	sec-BuNH	2,6-F ₂ -4-OMe
CHF ₂	sec-BuNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	sec-BuNH	2,6-F ₂ -4-OCF ₃
CHF ₂	sec-BuNH	2-Cl-6-F-4-OMe	C ₂ F ₅	sec-BuNH	2-Cl-6-F-4-OMe
CF ₃	sec-BuNH	2-Cl	CF ₂ Cl	sec-BuNH	2-Cl
CF ₃	sec-BuNH	2,4-Cl ₂	CF ₂ Cl	sec-BuNH	2,4-Cl ₂
CF ₃	sec-BuNH	2,6-Cl ₂	CF ₂ Cl	sec-BuNH	2,6-Cl ₂
CF ₃	sec-BuNH	2,4,6-Cl ₃	CF ₂ Cl	sec-BuNH	2,4,6-Cl ₃
CF ₃	sec-BuNH	3-Cl	CF ₂ Cl	sec-BuNH	3-Cl
CF ₃	sec-BuNH	2-F	CF ₂ Cl	sec-BuNH	2-F
CF ₃	sec-BuNH	2,4-F ₂	CF ₂ Cl	sec-BuNH	2,4-F ₂
CF ₃	sec-BuNH	2,6-F ₂	CF ₂ Cl	sec-BuNH	2,6-F ₂
CF ₃	sec-BuNH	2,4,6-F ₃	CF ₂ Cl	sec-BuNH	2,4,6-F ₃
CF ₃	sec-BuNH	3-F	CF ₂ Cl	sec-BuNH	3-F
CF ₃	sec-BuNH	2-Me	CF ₂ Cl	sec-BuNH	2-Me
CF ₃	sec-BuNH	2,4-Me ₂	CF ₂ Cl	sec-BuNH	2,4-Me ₂
CF ₃	sec-BuNH	2,6-Me ₂	CF ₂ Cl	sec-BuNH	2,6-Me ₂
CF ₃	sec-BuNH	2-Cl-6-F	CF ₂ Cl	sec-BuNH	2-Cl-6-F
CF ₃	sec-BuNH	2,6-F ₂ -4-OMe	CF ₂ Cl	sec-BuNH	2,6-F ₂ -4-OMe
CF ₃	sec-BuNH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	sec-BuNH	2,6-F ₂ -4-OCF ₃
CF ₃	sec-BuNH	2-Cl-6-F-4-OMe	CF ₂ Cl	sec-BuNH	2-Cl-6-F-4-OMe
CH ₂ Cl	sec-BuNH	2-Cl	CH ₂ F	sec-BuNH	2-Cl
CH ₂ Cl	sec-BuNH	2,4-Cl ₂	CH ₂ F	sec-BuNH	2,4-Cl ₂
CH ₂ Cl	sec-BuNH	2,6-Cl ₂	CH ₂ F	sec-BuNH	2,6-Cl ₂
CH ₂ Cl	sec-BuNH	2,4,6-Cl ₃	CH ₂ F	sec-BuNH	2,4,6-Cl ₃
CH ₂ Cl	sec-BuNH	3-Cl	CH ₂ F	sec-BuNH	3-Cl
CH ₂ Cl	sec-BuNH	2-F	CH ₂ F	sec-BuNH	2-F
CH ₂ Cl	sec-BuNH	2,4-F ₂	CH ₂ F	sec-BuNH	2,4-F ₂
CH ₂ Cl	sec-BuNH	2,6-F ₂	CH ₂ F	sec-BuNH	2,6-F ₂
CH ₂ Cl	sec-BuNH	2,4,6-F ₃	CH ₂ F	sec-BuNH	2,4,6-F ₃
CH ₂ Cl	sec-BuNH	3-F	CH ₂ F	sec-BuNH	3-F
CH ₂ Cl	sec-BuNH	2-Me	CH ₂ F	sec-BuNH	2-Me

[0056]

[A table 16]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	sec-BuNH	2,4-Me ₂	CH ₂ F	sec-BuNH	2,4-Me ₂
CH ₂ Cl	sec-BuNH	2,6-Me ₂	CH ₂ F	sec-BuNH	2,6-Me ₂
CH ₂ Cl	sec-BuNH	2-Cl-6-F	CH ₂ F	sec-BuNH	2-Cl-6-F
CH ₂ Cl	sec-BuNH	2,6-F ₂ -4-OMe	CH ₂ F	sec-BuNH	2,6-F ₂ -4-OMe
CH ₂ Cl	sec-BuNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	sec-BuNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	sec-BuNH	2-Cl-6-F-4-OMe	CH ₂ F	sec-BuNH	2-Cl-6-F-4-OMe
CHF ₂	4-F-c-Hex	2-Cl	C ₂ F ₅	4-F-c-Hex	2-Cl
CHF ₂	4-F-c-Hex	2,4-Cl ₂	C ₂ F ₅	4-F-o-Hex	2,4-Cl ₂
CHF ₂	4-F-c-Hex	2,6-Cl ₂	C ₂ F ₅	4-F-c-Hex	2,6-Cl ₂
CHF ₂	4-F-c-Hex	2,4,6-Cl ₃	C ₂ F ₅	4-F-c-Hex	2,4,6-Cl ₃
CHF ₂	4-F-c-Hex	3-Cl	C ₂ F ₅	4-F-c-Hex	3-Cl
CHF ₂	4-F-o-Hex	2-F	C ₂ F ₅	4-F-c-Hex	2-F
CHF ₂	4-F-c-Hex	2,4-F ₂	C ₂ F ₅	4-F-c-Hex	2,4-F ₂
CHF ₂	4-F-c-Hex	2,6-F ₂	C ₂ F ₅	4-F-c-Hex	2,6-F ₂
CHF ₂	4-F-c-Hex	2,4,6-F ₃	C ₂ F ₅	4-F-c-Hex	2,4,6-F ₃
CHF ₂	4-F-c-Hex	3-F	C ₂ F ₅	4-F-c-Hex	3-F
CHF ₂	4-F-c-Hex	2-Me	C ₂ F ₅	4-F-c-Hex	2-Me
CHF ₂	4-F-c-Hex	2,4-Me ₂	C ₂ F ₅	4-F-c-Hex	2,4-Me ₂
CHF ₂	4-F-c-Hex	2,6-Me ₂	C ₂ F ₅	4-F-c-Hex	2,6-Me ₂
CHF ₂	4-F-c-Hex	2-Cl-6-F	C ₂ F ₅	4-F-c-Hex	2-Cl-6-F
CHF ₂	4-F-c-Hex	2,6-F ₂ -4-OMe	C ₂ F ₅	4-F-c-Hex	2,6-F ₂ -4-OMe
CHF ₂	4-F-c-Hex	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	4-F-c-Hex	2,6-F ₂ -4-OCF ₃
CHF ₂	4-F-c-Hex	2-Cl-6-F-4-OMe	C ₂ F ₅	4-F-c-Hex	2-Cl-6-F-4-OMe
CF ₃	4-F-c-Hex	2-Cl	CF ₂ Cl	4-F-o-Hex	2-Cl
CF ₃	4-F-c-Hex	2,4-Cl ₂	CF ₂ Cl	4-F-c-Hex	2,4-Cl ₂
CF ₃	4-F-c-Hex	2,6-Cl ₂	CF ₂ Cl	4-F-c-Hex	2,6-Cl ₂
CF ₃	4-F-c-Hex	2,4,6-Cl ₃	CF ₂ Cl	4-F-c-Hex	2,4,6-Cl ₃
CF ₃	4-F-c-Hex	3-Cl	CF ₂ Cl	4-F-c-Hex	3-Cl
CF ₃	4-F-c-Hex	2-F	CF ₂ Cl	4-F-c-Hex	2-F
CF ₃	4-F-c-Hex	2,4-F ₂	CF ₂ Cl	4-F-o-Hex	2,4-F ₂
CF ₃	4-F-c-Hex	2,6-F ₂	CF ₂ Cl	4-F-c-Hex	2,6-F ₂
CF ₃	4-F-c-Hex	2,4,6-F ₃	CF ₂ Cl	4-F-c-Hex	2,4,6-F ₃
CF ₃	4-F-c-Hex	3-F	CF ₂ Cl	4-F-o-Hex	3-F
CF ₃	4-F-c-Hex	2-Me	CF ₂ Cl	4-F-c-Hex	2-Me
CF ₃	4-F-c-Hex	2,4-Me ₂	CF ₂ Cl	4-F-c-Hex	2,4-Me ₂
CF ₃	4-F-c-Hex	2,6-Me ₂	CF ₂ Cl	4-F-c-Hex	2,6-Me ₂

[0057]

[A table 17]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	4-F-c-Hex	2-Cl-6-F	CF ₂ Cl	4-F-c-Hex	2-Cl-6-F
CF ₃	4-F-c-Hex	2,6-F ₂ -4-OMe	CF ₂ Cl	4-F-c-Hex	2,6-F ₂ -4-OMe
CF ₃	4-F-o-Hex	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	4-F-o-Hex	2,6-F ₂ -4-OCF ₃
CF ₃	4-F-c-Hex	2-Cl-6-F-4-OMe	CF ₂ Cl	4-F-c-Hex	2-Cl-6-F-4-OMe
CH ₂ Cl	4-F-c-Hex	2-Cl	CH ₂ F	4-F-c-Hex	2-Cl
CH ₂ Cl	4-F-c-Hex	2,4-Cl ₂	CH ₂ F	4-F-o-Hex	2,4-Cl ₂
CH ₂ Cl	4-F-c-Hex	2,6-Cl ₂	CH ₂ F	4-F-c-Hex	2,6-Cl ₂
CH ₂ Cl	4-F-c-Hex	2,4,6-Cl ₃	CH ₂ F	4-F-c-Hex	2,4,6-Cl ₃
CH ₂ Cl	4-F-o-Hex	3-Cl	CH ₂ F	4-F-o-Hex	3-Cl
CH ₂ Cl	4-F-c-Hex	2-F	CH ₂ F	4-F-o-Hex	2-F
CH ₂ Cl	4-F-c-Hex	2,4-F ₂	CH ₂ F	4-F-c-Hex	2,4-F ₂
CH ₂ Cl	4-F-c-Hex	2,6-F ₂	CH ₂ F	4-F-c-Hex	2,6-F ₂
CH ₂ Cl	4-F-o-Hex	2,4,6-F ₃	CH ₂ F	4-F-c-Hex	2,4,6-F ₃
CH ₂ Cl	4-F-o-Hex	3-F	CH ₂ F	4-F-c-Hex	3-F
CH ₂ Cl	4-F-c-Hex	2-Me	CH ₂ F	4-F-c-Hex	2-Me
CH ₂ Cl	4-F-o-Hex	2,4-Me ₂	CH ₂ F	4-F-o-Hex	2,4-Me ₂
CH ₂ Cl	4-F-c-Hex	2,6-Me ₂	CH ₂ F	4-F-c-Hex	2,6-Me ₂
CH ₂ Cl	4-F-c-Hex	2-Cl-6-F	CH ₂ F	4-F-c-Hex	2-Cl-6-F
CH ₂ Cl	4-F-c-Hex	2,6-F ₂ -4-OMe	CH ₂ F	4-F-c-Hex	2,6-F ₂ -4-OMe
CH ₂ Cl	4-F-c-Hex	2,6-F ₂ -4-OCF ₃	CH ₂ F	4-F-c-Hex	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	4-F-c-Hex	2-Cl-6-F-4-OMe	CH ₂ F	4-F-c-Hex	2-Cl-6-F-4-OMe
CHF ₂	Et ₂ N	2-Cl	C ₂ F ₅	Et ₂ N	2-Cl
CHF ₂	Et ₂ N	2,4-Cl ₂	C ₂ F ₅	Et ₂ N	2,4-Cl ₂
CHF ₂	Et ₂ N	2,6-Cl ₂	C ₂ F ₅	Et ₂ N	2,6-Cl ₂
CHF ₂	Et ₂ N	2,4,6-Cl ₃	C ₂ F ₅	Et ₂ N	2,4,6-Cl ₃
CHF ₂	Et ₂ N	3-Cl	C ₂ F ₅	Et ₂ N	3-Cl
CHF ₂	Et ₂ N	2-F	C ₂ F ₅	Et ₂ N	2-F
CHF ₂	Et ₂ N	2,4-F ₂	C ₂ F ₅	Et ₂ N	2,4-F ₂
CHF ₂	Et ₂ N	2,6-F ₂	C ₂ F ₅	Et ₂ N	2,6-F ₂
CHF ₂	Et ₂ N	2,4,6-F ₃	C ₂ F ₅	Et ₂ N	2,4,6-F ₃
CHF ₂	Et ₂ N	3-F	C ₂ F ₅	Et ₂ N	3-F
CHF ₂	Et ₂ N	2-Me	C ₂ F ₅	Et ₂ N	2-Me
CHF ₂	Et ₂ N	2,4-Me ₂	C ₂ F ₅	Et ₂ N	2,4-Me ₂
CHF ₂	Et ₂ N	2,6-Me ₂	C ₂ F ₅	Et ₂ N	2,6-Me ₂
CHF ₂	Et ₂ N	2-Cl-6-F	C ₂ F ₅	Et ₂ N	2-Cl-6-F
CHF ₂	Et ₂ N	2,6-F ₂ -4-OMe	C ₂ F ₅	Et ₂ N	2,6-F ₂ -4-OMe

[0058]

[A table 18]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	Et ₂ N	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	Et ₂ N	2,6-F ₂ -4-OCF ₃
CHF ₂	Et ₂ N	2-Cl-6-F-4-OMe	C ₂ F ₅	Et ₂ N	2-Cl-6-F-4-OMe
CF ₃	Et ₂ N	2-Cl	CF ₂ Cl	Et ₂ N	2-Cl
CF ₃	Et ₂ N	2,4-Cl ₂	CF ₂ Cl	Et ₂ N	2,4-Cl ₂
CF ₃	Et ₂ N	2,6-Cl ₂	CF ₂ Cl	Et ₂ N	2,6-Cl ₂
CF ₃	Et ₂ N	2,4,6-Cl ₃	CF ₂ Cl	Et ₂ N	2,4,6-Cl ₃
CF ₃	Et ₂ N	3-Cl	CF ₂ Cl	Et ₂ N	3-Cl
CF ₃	Et ₂ N	2-F	CF ₂ Cl	Et ₂ N	2-F
CF ₃	Et ₂ N	2,4-F ₂	CF ₂ Cl	Et ₂ N	2,4-F ₂
CF ₃	Et ₂ N	2,6-F ₂	CF ₂ Cl	Et ₂ N	2,6-F ₂
CF ₃	Et ₂ N	2,4,6-F ₃	CF ₂ Cl	Et ₂ N	2,4,6-F ₃
CF ₃	Et ₂ N	3-F	CF ₂ Cl	Et ₂ N	3-F
CF ₃	Et ₂ N	2-Me	CF ₂ Cl	Et ₂ N	2-Me
CF ₃	Et ₂ N	2,4-Me ₂	CF ₂ Cl	Et ₂ N	2,4-Me ₂
CF ₃	Et ₂ N	2,6-Me ₂	CF ₂ Cl	Et ₂ N	2,6-Me ₂
CF ₃	Et ₂ N	2-Cl-6-F	CF ₂ Cl	Et ₂ N	2-Cl-6-F
CF ₃	Et ₂ N	2,6-F ₂ -4-OMe	CF ₂ Cl	Et ₂ N	2,6-F ₂ -4-OMe
CF ₃	Et ₂ N	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	Et ₂ N	2,6-F ₂ -4-OCF ₃
CF ₃	Et ₂ N	2-Cl-6-F-4-OMe	CF ₂ Cl	Et ₂ N	2-Cl-6-F-4-OMe
CH ₂ Cl	Et ₂ N	2-Cl	CH ₂ F	Et ₂ N	2-Cl
CH ₂ Cl	Et ₂ N	2,4-Cl ₂	CH ₂ F	Et ₂ N	2,4-Cl ₂
CH ₂ Cl	Et ₂ N	2,6-Cl ₂	CH ₂ F	Et ₂ N	2,6-Cl ₂
CH ₂ Cl	Et ₂ N	2,4,6-Cl ₃	CH ₂ F	Et ₂ N	2,4,6-Cl ₃
CH ₂ Cl	Et ₂ N	3-Cl	CH ₂ F	Et ₂ N	3-Cl
CH ₂ Cl	Et ₂ N	2-F	CH ₂ F	Et ₂ N	2-F
CH ₂ Cl	Et ₂ N	2,4-F ₂	CH ₂ F	Et ₂ N	2,4-F ₂
CH ₂ Cl	Et ₂ N	2,6-F ₂	CH ₂ F	Et ₂ N	2,6-F ₂
CH ₂ Cl	Et ₂ N	2,4,6-F ₃	CH ₂ F	Et ₂ N	2,4,6-F ₃
CH ₂ Cl	Et ₂ N	3-F	CH ₂ F	Et ₂ N	3-F
CH ₂ Cl	Et ₂ N	2-Me	CH ₂ F	Et ₂ N	2-Me
CH ₂ Cl	Et ₂ N	2,4-Me ₂	CH ₂ F	Et ₂ N	2,4-Me ₂
CH ₂ Cl	Et ₂ N	2,6-Me ₂	CH ₂ F	Et ₂ N	2,6-Me ₂
CH ₂ Cl	Et ₂ N	2-Cl-6-F	CH ₂ F	Et ₂ N	2-Cl-6-F
CH ₂ Cl	Et ₂ N	2,6-F ₂ -4-OMe	CH ₂ F	Et ₂ N	2,6-F ₂ -4-OMe
CH ₂ Cl	Et ₂ N	2,6-F ₂ -4-OCF ₃	CH ₂ F	Et ₂ N	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	Et ₂ N	2-Cl-6-F-4-OMe	CH ₂ F	Et ₂ N	2-Cl-6-F-4-OMe

[0059]

[A table 19]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	o-Pen	2-Cl	C ₂ F ₅	o-Pen	2-Cl
CHF ₂	o-Pen	2,4-Cl ₂	C ₂ F ₅	o-Pen	2,4-Cl ₂
CHF ₂	o-Pen	2,6-Cl ₂	C ₂ F ₅	o-Pen	2,6-Cl ₂
CHF ₂	o-Pen	2,4,6-Cl ₃	C ₂ F ₅	o-Pen	2,4,6-Cl ₃
CHF ₂	o-Pen	3-Cl	C ₂ F ₅	o-Pen	3-Cl
CHF ₂	o-Pen	2-F	C ₂ F ₅	o-Pen	2-F
CHF ₂	o-Pen	2,4-F ₂	C ₂ F ₅	o-Pen	2,4-F ₂
CHF ₂	o-Pen	2,6-F ₂	C ₂ F ₅	o-Pen	2,6-F ₂
CHF ₂	o-Pen	2,4,6-F ₃	C ₂ F ₅	o-Pen	2,4,6-F ₃
CHF ₂	o-Pen	3-F	C ₂ F ₅	o-Pen	3-F
CHF ₂	o-Pen	2-Me	C ₂ F ₅	o-Pen	2-Me
CHF ₂	o-Pen	2,4-Me ₂	C ₂ F ₅	o-Pen	2,4-Me ₂
CHF ₂	o-Pen	2,6-Me ₂	C ₂ F ₅	o-Pen	2,6-Me ₂
CHF ₂	o-Pen	2-Cl-6-F	C ₂ F ₅	o-Pen	2-Cl-6-F
CHF ₂	o-Pen	2,6-F ₂ -4-OMe	C ₂ F ₅	o-Pen	2,6-F ₂ -4-OMe
CHF ₂	o-Pen	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	o-Pen	2,6-F ₂ -4-OCF ₃
CHF ₂	o-Pen	2-Cl-6-F-4-OMe	C ₂ F ₅	o-Pen	2-Cl-6-F-4-OMe
CF ₃	o-Pen	2-Cl	CF ₂ Cl	o-Pen	2-Cl
CF ₃	o-Pen	2,4-Cl ₂	CF ₂ Cl	o-Pen	2,4-Cl ₂
CF ₃	o-Pen	2,6-Cl ₂	CF ₂ Cl	o-Pen	2,6-Cl ₂
CF ₃	o-Pen	2,4,6-Cl ₃	CF ₂ Cl	o-Pen	2,4,6-Cl ₃
CF ₃	o-Pen	3-Cl	CF ₂ Cl	o-Pen	3-Cl
CF ₃	o-Pen	2-F	CF ₂ Cl	o-Pen	2-F
CF ₃	o-Pen	2,4-F ₂	CF ₂ Cl	o-Pen	2,4-F ₂
CF ₃	o-Pen	2,6-F ₂	CF ₂ Cl	o-Pen	2,6-F ₂
CF ₃	o-Pen	2,4,6-F ₃	CF ₂ Cl	o-Pen	2,4,6-F ₃
CF ₃	o-Pen	3-F	CF ₂ Cl	o-Pen	3-F
CF ₃	o-Pen	2-Me	CF ₂ Cl	o-Pen	2-Me
CF ₃	o-Pen	2,4-Me ₂	CF ₂ Cl	o-Pen	2,4-Me ₂
CF ₃	o-Pen	2,6-Me ₂	CF ₂ Cl	o-Pen	2,6-Me ₂
CF ₃	o-Pen	2-Cl-6-F	CF ₂ Cl	o-Pen	2-Cl-6-F
CF ₃	o-Pen	2,6-F ₂ -4-OMe	CF ₂ Cl	o-Pen	2,6-F ₂ -4-OMe
CF ₃	o-Pen	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	o-Pen	2,6-F ₂ -4-OCF ₃
CF ₃	o-Pen	2-Cl-6-F-4-OMe	CF ₂ Cl	o-Pen	2-Cl-6-F-4-OMe
CH ₂ Cl	o-Pen	2-Cl	CH ₂ F	o-Pen	2-Cl
CH ₂ Cl	o-Pen	2,4-Cl ₂	CH ₂ F	o-Pen	2,4-Cl ₂

[0060]

[A table 20]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	c-Pen	2,6-Cl ₂	CH ₂ F	c-Pen	2,6-Cl ₂
CH ₂ Cl	o-Pen	2,4,6-Cl ₃	CH ₂ F	c-Pen	2,4,6-Cl ₃
CH ₂ Cl	c-Pen	3-Cl	CH ₂ F	o-Pen	3-Cl
CH ₂ Cl	c-Pen	2-F	CH ₂ F	c-Pen	2-F
CH ₂ Cl	c-Pen	2,4-F ₂	CH ₂ F	c-Pen	2,4-F ₂
CH ₂ Cl	c-Pen	2,6-F ₂	CH ₂ F	o-Pen	2,6-F ₂
CH ₂ Cl	c-Pen	2,4,6-F ₃	CH ₂ F	c-Pen	2,4,6-F ₃
CH ₂ Cl	c-Pen	3-F	CH ₂ F	c-Pen	3-F
CH ₂ Cl	c-Pen	2-Me	CH ₂ F	o-Pen	2-Me
CH ₂ Cl	c-Pen	2,4-Me ₂	CH ₂ F	c-Pen	2,4-Me ₂
CH ₂ Cl	c-Pen	2,6-Me ₂	CH ₂ F	c-Pen	2,6-Me ₂
CH ₂ Cl	o-Pen	2-Cl-6-F	CH ₂ F	c-Pen	2-Cl-6-F
CH ₂ Cl	c-Pen	2,6-F ₂ -4-OMe	CH ₂ F	c-Pen	2,6-F ₂ -4-OMe
CH ₂ Cl	c-Pen	2,6-F ₂ -4-OCF ₃	CH ₂ F	c-Pen	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	c-Pen	2-Cl-6-F-4-OMe	CH ₂ F	c-Pen	2-Cl-6-F-4-OMe
CHF ₂	o-HexNH	2-Cl	C ₂ F ₅	c-HexNH	2-Cl
CHF ₂	c-HexNH	2,4-Cl ₂	C ₂ F ₆	o-HexNH	2,4-Cl ₂
CHF ₂	c-HexNH	2,6-Cl ₂	C ₂ F ₅	c-HexNH	2,6-Cl ₂
CHF ₂	c-HexNH	2,4,6-Cl ₃	C ₂ F ₅	c-HexNH	2,4,6-Cl ₃
CHF ₂	c-HexNH	3-Cl	C ₂ F ₅	c-HexNH	3-Cl
CHF ₂	c-HexNH	2-F	C ₂ F ₅	c-HexNH	2-F
CHF ₂	c-HexNH	2,4-F ₂	C ₂ F ₅	c-HexNH	2,4-F ₂
CHF ₂	c-HexNH	2,6-F ₂	C ₂ F ₅	c-HexNH	2,6-F ₂
CHF ₂	c-HexNH	2,4,6-F ₃	C ₂ F ₅	c-HexNH	2,4,6-F ₃
CHF ₂	o-HexNH	3-F	C ₂ F ₅	o-HexNH	3-F
CHF ₂	c-HexNH	2-Me	C ₂ F ₅	c-HexNH	2-Me
CHF ₂	c-HexNH	2,4-Me ₂	C ₂ F ₅	c-HexNH	2,4-Me ₂
CHF ₂	c-HexNH	2,6-Me ₂	C ₂ F ₅	c-HexNH	2,6-Me ₂
CHF ₂	o-HexNH	2-Cl-6-F	C ₂ F ₅	o-HexNH	2-Cl-6-F
CHF ₂	c-HexNH	2,6-F ₂ -4-OMe	C ₂ F ₅	c-HexNH	2,6-F ₂ -4-OMe
CHF ₂	c-HexNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	c-HexNH	2,6-F ₂ -4-OCF ₃
CHF ₂	c-HexNH	2-Cl-6-F-4-OMe	C ₂ F ₅	c-HexNH	2-Cl-6-F-4-OMe
CF ₃	c-HexNH	2-Cl	CF ₂ Cl	c-HexNH	2-Cl
CF ₃	c-HexNH	2,4-Cl ₂	CF ₂ Cl	c-HexNH	2,4-Cl ₂
CF ₃	c-HexNH	2,6-Cl ₂	CF ₂ Cl	c-HexNH	2,6-Cl ₂
CF ₃	c-HexNH	2,4,6-Cl ₃	CF ₂ Cl	c-HexNH	2,4,6-Cl ₃

[0061]

[A table 21]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	c-HexNH	3-Cl	CF ₂ Cl	c-HexNH	3-Cl
CF ₃	c-HexNH	2-F	CF ₂ Cl	c-HexNH	2-F
CF ₃	c-HexNH	2,4-F ₂	CF ₂ Cl	c-HexNH	2,4-F ₂
CF ₃	c-HexNH	2,6-F ₂	CF ₂ Cl	c-HexNH	2,6-F ₂
CF ₃	c-HexNH	2,4,6-F ₃	CF ₂ Cl	c-HexNH	2,4,6-F ₃
CF ₃	c-HexNH	3-F	CF ₂ Cl	c-HexNH	3-F
CF ₃	c-HexNH	2-Me	CF ₂ Cl	c-HexNH	2-Me
CF ₃	c-HexNH	2,4-Me ₂	CF ₂ Cl	c-HexNH	2,4-Me ₂
CF ₃	c-HexNH	2,6-Me ₂	CF ₂ Cl	c-HexNH	2,6-Me ₂
CF ₃	c-HexNH	2-Cl-6-F	CF ₂ Cl	c-HexNH	2-Cl-6-F
CF ₃	c-HexNH	2,6-F ₂ -4-OMe	CF ₂ Cl	c-HexNH	2,6-F ₂ -4-OMe
CF ₃	c-HexNH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	c-HexNH	2,6-F ₂ -4-OCF ₃
CF ₃	c-HexNH	2-Cl-6-F-4-OMe	CF ₂ Cl	c-HexNH	2-Cl-6-F-4-OMe
CH ₂ Cl	c-HexNH	2-Cl	CH ₂ F	c-HexNH	2-Cl
CH ₂ Cl	c-HexNH	2,4-Cl ₂	CH ₂ F	c-HexNH	2,4-Cl ₂
CH ₂ Cl	c-HexNH	2,6-Cl ₂	CH ₂ F	c-HexNH	2,6-Cl ₂
CH ₂ Cl	c-HexNH	2,4,6-Cl ₃	CH ₂ F	c-HexNH	2,4,6-Cl ₃
CH ₂ Cl	c-HexNH	3-Cl	CH ₂ F	c-HexNH	3-Cl
CH ₂ Cl	c-HexNH	2-F	CH ₂ F	c-HexNH	2-F
CH ₂ Cl	c-HexNH	2,4-F ₂	CH ₂ F	c-HexNH	2,4-F ₂
CH ₂ Cl	c-HexNH	2,6-F ₂	CH ₂ F	c-HexNH	2,6-F ₂
CH ₂ Cl	c-HexNH	2,4,6-F ₃	CH ₂ F	c-HexNH	2,4,6-F ₃
CH ₂ Cl	c-HexNH	3-F	CH ₂ F	c-HexNH	3-F
CH ₂ Cl	c-HexNH	2-Me	CH ₂ F	c-HexNH	2-Me
CH ₂ Cl	c-HexNH	2,4-Me ₂	CH ₂ F	c-HexNH	2,4-Me ₂
CH ₂ Cl	c-HexNH	2,6-Me ₂	CH ₂ F	c-HexNH	2,6-Me ₂
CH ₂ Cl	c-HexNH	2-Cl-6-F	CH ₂ F	c-HexNH	2-Cl-6-F
CH ₂ Cl	c-HexNH	2,6-F ₂ -4-OMe	CH ₂ F	c-HexNH	2,6-F ₂ -4-OMe
CH ₂ Cl	c-HexNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	c-HexNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	c-HexNH	2-Cl-6-F-4-OMe	CH ₂ F	c-HexNH	2-Cl-6-F-4-OMe
CHF ₂	2-MeAl-NH	2-Cl	C ₂ F ₅	2-MeAl-NH	2-Cl
CHF ₂	2-MeAl-NH	2,4-Cl ₂	C ₂ F ₅	2-MeAl-NH	2,4-Cl ₂
CHF ₂	2-MeAl-NH	2,6-Cl ₂	C ₂ F ₅	2-MeAl-NH	2,6-Cl ₂
CHF ₂	2-MeAl-NH	2,4,6-Cl ₃	C ₂ F ₅	2-MeAl-NH	2,4,6-Cl ₃
CHF ₂	2-MeAl-NH	3-Cl	C ₂ F ₅	2-MeAl-NH	3-Cl
CHF ₂	2-MeAl-NH	2-F	C ₂ F ₅	2-MeAl-NH	2-F

[0062]

[A table 22]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	2-MeAl-NH	2,4-F ₂	C ₂ F ₅	2-MeAl-NH	2,4-F ₂
CHF ₂	2-MeAl-NH	2,6-F ₂	C ₂ F ₅	2-MeAl-NH	2,6-F ₂
CHF ₂	2-MeAl-NH	2,4,6-F ₃	C ₂ F ₅	2-MeAl-NH	2,4,6-F ₃
CHF ₂	2-MeAl-NH	3-F	C ₂ F ₅	2-MeAl-NH	3-F
CHF ₂	2-MeAl-NH	2-Me	C ₂ F ₅	2-MeAl-NH	2-Me
CHF ₂	2-MeAl-NH	2,4-Me ₂	C ₂ F ₅	2-MeAl-NH	2,4-Me ₂
CHF ₂	2-MeAl-NH	2,6-Me ₂	C ₂ F ₅	2-MeAl-NH	2,6-Me ₂
CHF ₂	2-MeAl-NH	2-Cl-6-F	C ₂ F ₅	2-MeAl-NH	2-Cl-6-F
CHF ₂	2-MeAl-NH	2,6-F ₂ -4-OMe	C ₂ F ₅	2-MeAl-NH	2,6-F ₂ -4-OMe
CHF ₂	2-MeAl-NH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	2-MeAl-NH	2,6-F ₂ -4-OCF ₃
CHF ₂	2-MeAl-NH	2-Cl-6-F-4-OMe	C ₂ F ₅	2-MeAl-NH	2-Cl-6-F-4-OMe
CF ₃	2-MeAl-NH	2-Cl	CF ₂ Cl	2-MeAl-NH	2-Cl
CF ₃	2-MeAl-NH	2,4-Cl ₂	CF ₂ Cl	2-MeAl-NH	2,4-Cl ₂
CF ₃	2-MeAl-NH	2,6-Cl ₂	CF ₂ Cl	2-MeAl-NH	2,6-Cl ₂
CF ₃	2-MeAl-NH	2,4,6-Cl ₃	CF ₂ Cl	2-MeAl-NH	2,4,6-Cl ₃
CF ₃	2-MeAl-NH	3-Cl	CF ₂ Cl	2-MeAl-NH	3-Cl
CF ₃	2-MeAl-NH	2-F	CF ₂ Cl	2-MeAl-NH	2-F
CF ₃	2-MeAl-NH	2,4-F ₂	CF ₂ Cl	2-MeAl-NH	2,4-F ₂
CF ₃	2-MeAl-NH	2,6-F ₂	CF ₂ Cl	2-MeAl-NH	2,6-F ₂
CF ₃	2-MeAl-NH	2,4,6-F ₃	CF ₂ Cl	2-MeAl-NH	2,4,6-F ₃
CF ₃	2-MeAl-NH	3-F	CF ₂ Cl	2-MeAl-NH	3-F
CF ₃	2-MeAl-NH	2-Me	CF ₂ Cl	2-MeAl-NH	2-Me
CF ₃	2-MeAl-NH	2,4-Me ₂	CF ₂ Cl	2-MeAl-NH	2,4-Me ₂
CF ₃	2-MeAl-NH	2,6-Me ₂	CF ₂ Cl	2-MeAl-NH	2,6-Me ₂
CF ₃	2-MeAl-NH	2-Cl-6-F	CF ₂ Cl	2-MeAl-NH	2-Cl-6-F
CF ₃	2-MeAl-NH	2,6-F ₂ -4-OMe	CF ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OMe
CF ₃	2-MeAl-NH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OCF ₃
CF ₃	2-MeAl-NH	2-Cl-6-F-4-OMe	CF ₂ Cl	2-MeAl-NH	2-Cl-6-F-4-OMe
CH ₂ Cl	2-MeAl-NH	2-Cl	CH ₂ F	2-MeAl-NH	2-Cl
CH ₂ Cl	2-MeAl-NH	2,4-Cl ₂	CH ₂ F	2-MeAl-NH	2,4-Cl ₂
CH ₂ Cl	2-MeAl-NH	2,6-Cl ₂	CH ₂ F	2-MeAl-NH	2,6-Cl ₂
CH ₂ Cl	2-MeAl-NH	2,4,6-Cl ₃	CH ₂ F	2-MeAl-NH	2,4,6-Cl ₃
CH ₂ Cl	2-MeAl-NH	3-Cl	CH ₂ F	2-MeAl-NH	3-Cl
CH ₂ Cl	2-MeAl-NH	2-F	CH ₂ F	2-MeAl-NH	2-F
CH ₂ Cl	2-MeAl-NH	2,4-F ₂	CH ₂ F	2-MeAl-NH	2,4-F ₂
CH ₂ Cl	2-MeAl-NH	2,6-F ₂	CH ₂ F	2-MeAl-NH	2,6-F ₂

[0063]

[A table 23]

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	2-MeAl-NH	2,4,6-F ₃	CH ₂ F	2-MeAl-NH	2,4,6-F ₃
CH ₂ Cl	2-MeAl-NH	3-F	CH ₂ F	2-MeAl-NH	3-F
CH ₂ Cl	2-MeAl-NH	2-Me	CH ₂ F	2-MeAl-NH	2-Me
CH ₂ Cl	2-MeAl-NH	2,4-Me ₂	CH ₂ F	2-MeAl-NH	2,4-Me ₂
CH ₂ Cl	2-MeAl-NH	2,6-Me ₂	CH ₂ F	2-MeAl-NH	2,6-Me ₂
CH ₂ Cl	2-MeAl-NH	2-Cl-6-F	CH ₂ F	2-MeAl-NH	2-Cl-6-F
CH ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OMe	CH ₂ F	2-MeAl-NH	2,6-F ₂ -4-OMe
CH ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OCF ₃	CH ₂ F	2-MeAl-NH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	2-MeAl-NH	2-Cl-6-F-4-OMe	CH ₂ F	2-MeAl-NH	2-Cl-6-F-4-OMe
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2-Cl	Me(CF ₃)CHCH ₂	c-Hex	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2-Cl-6-F	Me(CF ₃)CHCH ₂	c-Hex	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	c-Hex	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2,4,6-F ₃	Me(CF ₃)CHCH ₂	c-Hex	2,4,6-F ₃
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2-Cl	Me(CF ₃)CHCH ₂	4-Me-Pip	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2-Cl-6-F	Me(CF ₃)CHCH ₂	4-Me-Pip	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	4-Me-Pip	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2,4,6-F ₃	Me(CF ₃)CHCH ₂	4-Me-Pip	2,4,6-F ₃
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl-6-F	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2,4,6-F ₃
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2-Cl	Me(CF ₃)CHCH ₂	c-PenNH	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2-Cl-6-F	Me(CF ₃)CHCH ₂	c-PenNH	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	c-PenNH	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2,4,6-F ₃	Me(CF ₃)CHCH ₂	c-PenNH	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	c-Hex	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2-Cl
CF ₃ CF ₂ CF ₂	c-Hex	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2-Cl-6-F
CF ₃ CF ₂ CF ₂	c-Hex	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	c-Hex	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	4-Me-Pip	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2-Cl
CF ₃ CF ₂ CF ₂	4-Me-Pip	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2-Cl-6-F
CF ₃ CF ₂ CF ₂	4-Me-Pip	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	4-Me-Pip	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2-Cl
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2-Cl-6-F
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	c-PenNH	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2-Cl
CF ₃ CF ₂ CF ₂	c-PenNH	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2-Cl-6-F
CF ₃ CF ₂ CF ₂	c-PenNH	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	c-PenNH	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2,4,6-F ₃

[0064] (Germicide for plantation arts) this invention compound has the sterilizing properties which were excellent to the bacillus which the mold of a wide range class, for example, Phycomycetes, (Oomycetes), and a child get (sac), and belongs to a fungus (Ascomycetes), fungi imperfecti (Deuteromycetes), and Basidiomycetes (Basidiomycetes). The constituent which makes this invention compound an active principle is applicable to prevention of the various disease generated on the occasion of vegetation of the plantation art crop containing a flowering plant, grass, and grass with seed treatment, a foliage application, soil use, or application on water surface.

[0065] For example, sugarbeet Cercospora leaf spot (Cercospora beticola)

Peanut Cercospora leaf spot (Mycosphaerella arachidis)

Cercospora personata (Mycosphaerella berkeleyi) Cucumber Japanese noodles **** (Sphaerotheca fuliginea)

Mycosphaerella melonis (Mycosphaerella melonis)

Sclerotinia rot (Sclerotinia sclerotiorum)

Gray mold disease (Botrytis cinerea)

Black spot (*Cladosporium cucumerinum*)
 Tomato Gray mold disease (*Botrytis cinerea*)
 Leaf mold disease (*Cladosporium fulvum*)
 Eggplant Gray mold disease (*Botrytis cinerea*)
Corynespora melongenae (*Corynespora melongenae*)
 Japanese noodles **** (*Erysiphe cichoracearum*)
 Strawberry Gray mold disease (*Botrytis cinerea*)
 Japanese noodles **** (*Sphaerotheca humuli*)
 Onion Gray rot (*Botrytis allii*)
 Gray mold disease (*Botrytis cinerea*)
 Kidney bean Sclerotinia rot (*Sclerotinia sclerotiorum*)
 Gray mold disease (*Botrytis cinerea*)
 Apple Japanese noodles **** (*Podosphaera leucotricha*)
 Black spot (*Venturia inaequalis*) Moniliasis (*Monilinia mali*)
 Oyster Japanese noodles **** (*Phyllactinia kakicola*)
 ***** (*Gloeosporium kaki*)
 Angular leaf spot (*Cercospora kaki*)
 Peach cherry Brown rot (*Monilinia fructicola*)
 [0066]
 Grape Gray mold disease (*Botrytis cinerea*)
 Japanese noodles **** (*Uncinula necator*)
Glomerella cingulata (*Glomerella cingulata*)
 Pear Black spot (*Venturia nashicola*)
Gymnosporangium japonicum (*Gymnosporangium asiaticum*)
 Black rot (*Alternaria kikuchiana*)
 Tea Gray blight (*Pestalotia theae*)
 ***** (*Colletotrichum theae-sinensis*)
 Citrus Scab (*Elsinoe fawcetti*)
 Blue mold disease (*Penicillium italicum*)
 Green mold disease (*Penicillium digitatum*)
 Gray mold disease (*Botrytis cinerea*)
 Barley Japanese noodles **** (*Erysiphe graminis f.sp.hordei*)
 Nakedness smut (*Ustilago nuda*)
 The red mold disease of wheat (*Gibberella zeae*)
 Rust disease (*Puccinia recondita*)
 Spot plant disease (*Cochliobolus sativus*)
Pseudocercospora herpotrichoides (*Pseudocercospora herpotrichoides*)
Leptosphaeria nodorum (*Leptosphaeria nodorum*)
 Japanese noodles **** (*Erysiphe graminis f.sp.tritici*)
 Red snow mould (*Micronectriella nivalis*)
 [0067]
 Rice Rice blast (*Pyricularia oryzae*)
Rhizoctonia solani (*Rhizoctonia solani*)
 Bakanae disease (*Gibberella fujikuroi*)
Cochliobolus miyabeanus (*Cochliobolus miyabeanus*)
 Tobacco Sclerotinia rot (*Sclerotinia sclerotiorum*)
 Japanese noodles **** (*Erysiphe cichoracearum*)
 Tulip Gray mold disease (*Botrytis cinerea*)
 Bentgrass Sclerotinia snow blight (*Sclerotinia borealis*)
Dactylis glomerata Japanese noodles **** (*Erysiphe graminis*)
 Soybeans Purpura (*Cercospora kikuchii*)
 Potato tomato Epidemic (*Phytophthora infestans*)
 Cucumber Downy mildew (*Pseudoperonospora cubensis*)
 Grape Downy mildew (*Plasmopara viticola*)
 It can be used for prevention of **.

[0068] Moreover, in disease germs various in recent years, the resistance over a benzimidazole system
 germicide, an dicarboxyimide system germicide, etc. progressed, the lack of validity of those drugs is produced,

and drugs effective also in resistant bacteria are desired. The compounds of this invention are drugs which have the bactericidal effect which was excellent not only in the disease germ of susceptibility but resistant bacteria to these drugs. For example, this invention compound as well as a sensitive strain is effective also to the gray mold contagion (*Botrytis cinerea*) and *Cercospora beticola* (*Cercospora beticola*) which show resistance to benzimidazole system germicides, such as thiophanate-methyl, BENOMIRU, and carbendazim, an apple black spot bacillus (*Venturia inaequalis*), and a pear black spot bacillus (*Venturia nashicola*).

[0069] Furthermore, this invention compound as well as a sensitive strain is effective in an dicarboxyimide system germicide (for example, vincrozone, procymidone, iprodione) also to the gray mold contagion (*Botrytis cinerea*) which shows resistance.

[0070] As disease with more desirable application, the *Cercospora* leaf spot of a sugarbeet, Japanese noodles **** of wheat, the rice blast of a rice, an apple black spot, the gray mold disease of a cucumber, the *Cercospora* leaf spot of a peanut, etc. are mentioned.

[0071] this invention compound can also be used as a stain proofing agent for an aquatic living thing to prevent adhering to underwater contactant, such as a ship's bottom and a fishing net. There are some this invention compounds which show insect killing and ** tick activity.

[0072] this invention germicide contains one sort of this invention compound, or two sorts or more as an active principle. It can also be used with the gestalt of the gestalt which common agricultural chemicals can take in order not to add other components, but to be able to use it in a pure form in case this invention compound is used actually, and to use it as agricultural chemicals, i.e., water dispersible powder, a granule, powder material, an emulsion, water soluble powders, suspension, granulation water dispersible powder, etc.

[0073] As the additive which can be added in agricultural-chemicals pharmaceutical preparation, and support, when aiming at a solid agent, organic [, such as mineral impalpable powder, such as vegetable powder, such as a soybean meal and wheat flour diatomaceous earth, apatite, gypsum, talc a bentonite, pyrophyllite, and clay, benzoic-acid soda, a urea, and a salt cake,] and an inorganic compound are used.

[0074] Moreover, when aiming at the pharmaceutical form of a liquid, kerosine, a xylene and the aromatic hydrocarbon of a petroleum system, a cyclohexane, a cyclohexanone, dimethylformamide, dimethyl sulfoxide, alcohol, an acetone, trichloroethylene, methyl isobutyl ketone, straight mineral oil, vegetable oil, water, etc. can be used as a solvent. Furthermore, in order to take homogeneity and a stable gestalt in these pharmaceutical preparation, a surfactant can also be added if needed. Although there is especially no definition as a surfactant which can be added For example, the alkylphenyl ether which the polyoxyethylene added, The alkyl ether which the polyoxyethylene added, the higher-fatty-acid ester which the polyoxyethylene added, Nonionic surfactants, such as tris CHIRIRU phenyl ether which the sorbitan higher-fatty-acid ester which the polyoxyethylene added, and a polyoxyethylene added, The sulfate salt of the alkylphenyl ether which the polyoxyethylene added, Alkylbenzene sulfonates, the sulfate salt of higher alcohol, The copolymer of the formaldehyde condensate of alkylnaphthalenesulfonate, a polycarboxylic acid salt, a ligninsulfonic acid salt, and alkylnaphthalenesulfonate and an isobutylene-maleic anhydride etc. is mentioned.

[0075] The obtained water dispersible powder, an emulsion, a floor bull agent, water soluble powders, and granulation water dispersible powder are diluted to concentration predetermined with water, and powder material and a granule are used by the approach of sprinkling for vegetation as it is as a solution, suspension, or an emulsion. Moreover, the amount of active principles is 0.01 - 90 % of the weight preferably to the whole constituent (pharmaceutical preparation), and is usually 0.05 - 85 % of the weight more preferably.

[0076] The germicide constituent of pharmaceutical-preparation-ized this invention remains as it is, or is diluted with water etc. and used for a plant body, a seed, the water surface, or soil. Although amount of application changes with a weather condition, formulation, the use MAG, the use approach, a use location, the disease for prevention, object crops, etc., it is usually made into the amount of active principle compounds per ha, and is 10-100g preferably 1-1,000g.

[0077] When diluting water dispersible powder, an emulsion, suspension, water soluble powders, granulation water dispersible powder, etc. with water and using them, 1-1000 ppm of the use concentration are 10-250 ppm preferably, and in the case of a granule, powder material, etc., it is used as they are, without diluting. In addition, for this invention compound, it is various kinds of germicides, and insect killing and miticides that it is effective enough even when it is independent, although it is needless to say. Or it can also be used, mixing with one sort of a synergist, or two sorts or more.

[0078] The example of representation of the germicide which can be used mixing with this invention compound, an insecticide, miticide, and a plant growth regulator is shown below.

[0079] Germicide : Captan, folpet, thiuram, ziram, a zineb, MANNEBU, MANKOZEBU, propineb, polycarbamate, chlorothalonil, quintozone, Captaphore, iprodione, procymidone, vincrozone, fluoroimide, SAIMOKISANIRU, MEPURONIRU, flutolanil, the Benxi kuron, oxycarboxin, Aluminum tris

(ethoxyphosphinate), propamocarb, thoria JIMEHON, thoria JIMENORU, Propiconazole, JIKUROBUTORAZORU, Bitertanol, hexa kona ZORU, Micro swine nil, full SHIRAZORU, METOKONAZORU, etaconazole, FURUOTORIMAZORU, cyproconazole, epoxyconazole, full thoria FEN, BENKONAZORU, JINIKONAZORU, SAIPUROKONAZOZU, fenarimol, Triflumizole, pro KURORAZU, imazalil, PEFURAZOETO, tridemorph, A FEMPUROPI morph, trifolin, a BUCHIO bait, pyrifenox, Anilazine, polyoxin, metalaxyl, oxadixyl, furalaxyl, Isoprothiolane, Probenazole, pyrrole nit phosphorus, blasticidin S, Kasugamycin, a validamycin, sulfuric-acid dihydrostreptomycin, BENOMIRU, carbendazim, thiophanate-methyl, hymexazol, Copper oxychloride, a basic copper sulfate, fentinacetate, hydroxylation triphenyl tin, JIETOFENKARUBU, metasulfocarb, Chinomethionate, binapacryl, Lecithin, sodium bicarbonate, dithianon, JINOKAPPU, para dimethylaminobenzenediazo sodium sulfonate, dichlomedin, Guazatine, DOJIN, IBP, edifenphos, MEPANIPIRIMU, FERUMUZON, Trichlamid, metasulfocarb, fluazinam, etoquinolak, A JIMETO morph, pyroquilon, tecloftalam, fthalide, phenazine oxide, Thiabendazole, tricyclazole, vincrozone, cymoxanil, cyclobutanyl, guazatine, propamocarb hydrochloride, oxolinic acid, a hydroxy isoxazole, imino KUTAJIN acetate, etc.

[0080] insect killing and miticide: -- organic phosphorus and carver mate system insecticide: -- fenthion -- Fenitrothion, diazinon, chlorpyrifos, ESP, vamidothion, Phenthoate, dimethoate, formothion, marathon, trichlorfon, Thiometon, phosmet, dichlorvos, acephate, EPBP, Methyl parathion, oxydemetonmethyl, ethion, SARICHION, Cyanophos, isoxathion, pyridaphenthion, phosalone, methidathion, Sulprofos, chlorfenvinphos, tetrachlorvinphos, dimethylvinphos, Propaphos, isofenphos, ethylthiometon, prophenophos, Pyraclophos, monocrotophos, azinephosmethyl, ARUDIKARUBU, A meso mill, thio JIKARUBU, carbofuran, KARUBO sulfane, Benfuracarb, hula thio KARUBU, pro POKISURU, BPMC, MTMC, MIPC, carbaryl, pirimicarb, ethiofencarb, phenoxy KARUBU, EDDP, etc.

[0081] pyrethroid system insecticide: -- permethrin, SHIPERUME thorin, deltamethrin, fenvalerate, Foehn proper thorin, pyrethrin, allethrin, tetra-scalpel phosphorus, RESUME thorin, JIMESURIN, pro pass phosphorus, FENO thorin, pro thorin, full BARINETO, SHIFURU thorin, SHIHARO thorin, full SHITORINETO, ETOFEMPUROKUSU, cyclo pro thorin, and fatty tuna -- lame thorin, silafluofen, BUROFEMPUROKUSU, acrinathrin, etc.

[0082] The insecticide of a benzoyl urea system and others: Microbial pesticides, such as JIFURUBENZURON, KURORU fluazuron, hexa full MURON, triflumuron, tetra-BENZURON, full FENOKUSURON, furcycloxuron, buprofezin, pyriproxifen, methoprene, benzoepin, JIAFENCHIURON, ASETAMIPURIDO, imidacloprid, nitenpyram, fipronil, cartap, thiocyclam, a BENSURU tap, nicotine sulfate, a rotenone, a metaldehyde, machine oil, and BT, an insect pathogenic virus etc.

[0083] Nematicide: Fenamiphos, phosthiazate, etc.

Miticide: Chlorbenzilate, phenisobromolate, JIKOHORU, amitraz, BPPS, a benzomate, HEKISHICHLAZOKUSU, fenbutatin oxide, PORINA cutin, KINOMECHIONETO, CPCBS, Tetradifon, ABERUME cutin, MIRUBEME cutin, clofentezine, cyhexatin, pyridaben, fenpyroximate, tebufenpyrad, pilus midge FEN, FENOCHIOKARUBU, JIENOKURORU, etc.

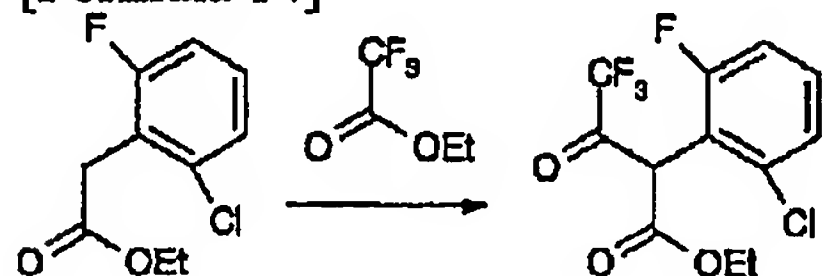
[0084] Plant growth regulator: Gibberellins (for example, gibberellin A3, gibberellin A4, a gibberellin A7) IAA and NAA

[0085]

[Example] Next, an example is given and this invention compound is further explained to a detail.

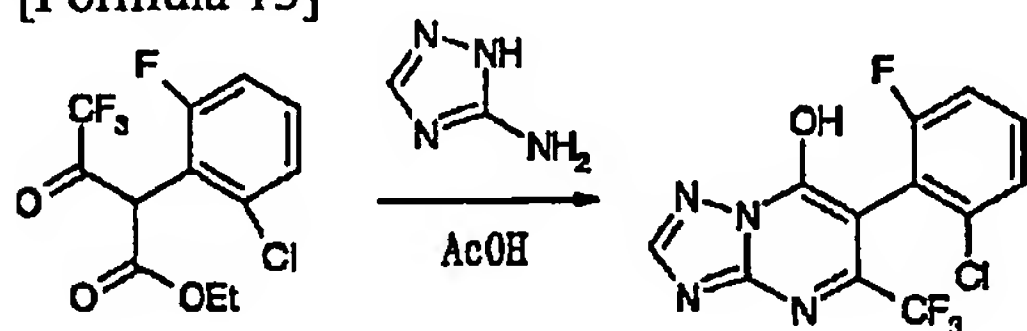
(Example 1) 7-chloro-6-(2-chloro-6-fluoro phenyl)- manufacture 1 ethyl of 5-trifluoromethyl-triazolo [1, 2, and 4-] [1 and 5-a] pyrimidine 2-(2-chloro-6-fluoro phenyl)- manufacture [0086] of 4, 4, and 4-trifluoro-3-oxo-butyrate

[Formula 14]

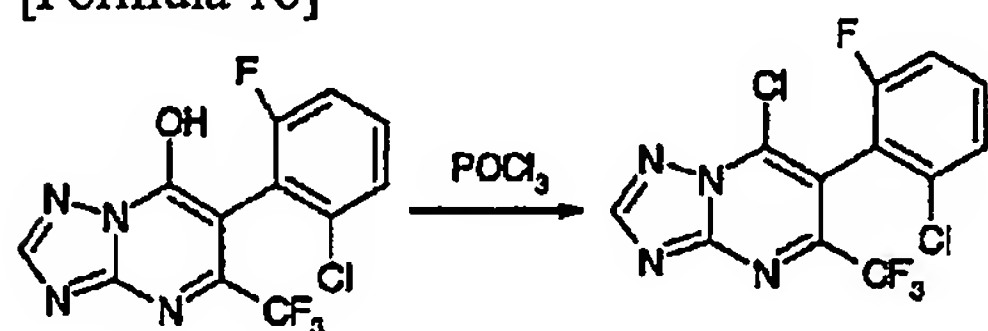


[0087] Ethyl To a 2-chloro-6-fluoro phenyl acetate 43.3g DMF100ml solution, it is ethyl. After adding trifluoroacetate 85.2g, 8g of sodium hydride was added small quantity every under the room temperature. Temperature up of the reaction mixture was carried out to 70 degrees C, and it agitated until generating of hydrogen was lost. It poured into [after cooling a reaction mixture] 1N-hydrochloric acid, and ethyl acetate extracted. After drying and condensing an organic layer with sulfuric anhydride magnesium, the silica gel silica gel column chromatography (expansion solvent; n-hexane) refined, and 12g of specified substance was obtained. Yield 20%
 [0088] 2) 6-(2-chloro-6-fluoro phenyl)-7-hydroxy-5-trifluoromethyl

- 1, 2, manufacture of the 4-[1 and 5-triazolo a] pyrimidine [0089]
[Formula 15]

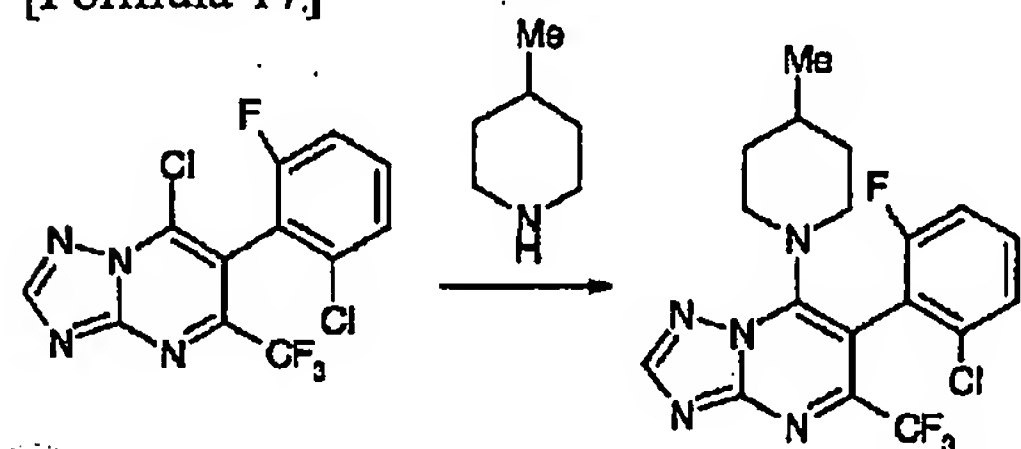


[0090] ethyl 2-(2-chloro-6-fluorophenyl)-4,4,4-trifluoro-3-oxobutanoate 3.13g and 3-amino-1H-1,2,4-triazole and 3ml of acetic acids were mixed, and this mixture was agitated at 100 degrees C for 4 hours. Reaction mixture was cooled to the room temperature and the crystallization crystal was ****(ed). After diethylether washed the crystallization crystal, it dried and 0.7g of specified substance was obtained. 21% melting point of yield: 220 degree-Cup[0091] 3) 7-chloro-6-(2-chloro-6-fluorophenyl)-5-trifluoromethyl-1,2,4-triazolo[1,5-a]pyrimidine [0092]
[Formula 16]

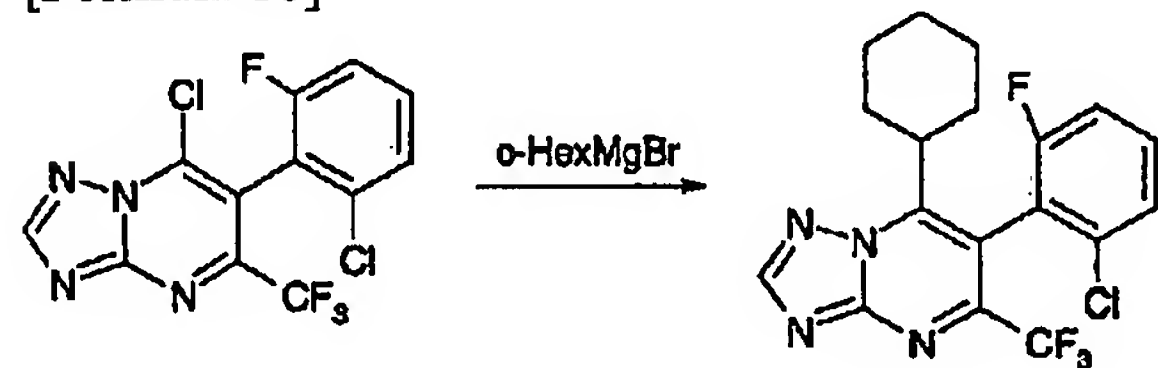


[0093] 7-hydroxy-6-(2-chloro-6-fluorophenyl)-5-trifluoromethyl-1,2,4-triazolo[1,5-a]pyrimidine 0.6g and 10ml of phosphorus oxychloride were mixed, and the heating reflux of this mixture was carried out for 4 hours. The reaction mixture was condensed, and 2ml of saturation sodium bicarbonate water solutions, 10ml of water, and ethyl acetate were added and agitated. The organic layer was isolated preparatively, after drying and condensing with sulfuric anhydride magnesium, the silica gel column chromatography (an expansion solvent, n-hexane:ethyl acetate = 5:1) refined, and 0.65g of specified substance was obtained. amorphous [52% of yield] -- [0094] (Example 2)

6-(2-chloro-6-fluorophenyl)-7-(4-methyl piperidino)-5-trifluoromethyl-1,2,4-triazolo[1,5-a]pyrimidine [0095]
[Formula 17]



[0096] 7-chloro-6-(2-chloro-6-fluorophenyl)-5-trifluoromethyl-1,2,4-triazolo[1,5-a]pyrimidine 0.1g THF 5ml solution, and it agitated at the room temperature one whole day and night. After condensing a reaction mixture, the silica gel column chromatography (n-hexane: expansion solvent; ethyl-acetate = 5:1) refined, and 0.1g of specified substance was obtained. 85% melting point of yield: 165-166 degrees C [0097] (Example 3)
6-(2-chloro-6-fluorophenyl)-7-cyclohexyl-5-trifluoromethyl-1,2,4-triazolo[1,5-a]pyrimidine (compound number 2) [0098]
[Formula 18]



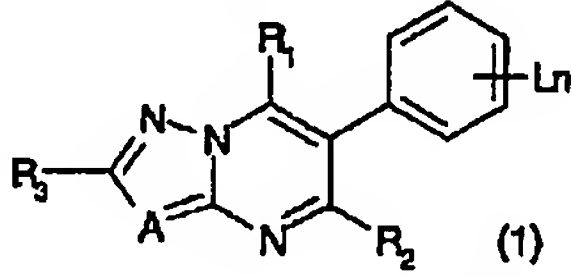
[0099] 6-(2-chloro-6-fluorophenyl)-7-chloro-5-trifluoromethyl-1,2,4-triazolo[1,5-a]pyrimidine [0.57] and 1, and 3-screw (diphenyl phosphino) propane nickel chloride 0.08g and THF 10ml were mixed, under the nitrogen air current, at the room temperature, 2ml of 1M cyclohexyl magnesium bromide THF solutions was dropped, and they were agitated one whole day and night. After carrying out reduced pressure

- : distilling off of the solvent from a reaction mixture, ethyl acetate and saturation brine were added and agitated.
 . The silica gel column chromatography (n-hexane: expansion solvent; ethyl-acetate = 10:1) refined the residue which dried the organic layer with sulfuric anhydride magnesium, and was condensed and obtained, and 0.15g of specified substance was obtained. 25% melting point of yield: 162-163 degrees C [0100] The examples of representation of the compound of this invention including the above-mentioned example are shown in the 2nd table. In addition, an abridged notation expresses the same semantics as said 1st table.

[0101]

[A table 24]

第 2 表

 (1)						
化合物番号	A	R ₁	R ₂	Ln	R ₃	mp(°C)
1	N	OH	CF ₃	2-Cl-6-F	H	220 UP
2	N	Cl	CF ₃	2-Cl-6-F	H	amorphous
3	N	4-Me-Pip	CF ₃	2-Cl-6-F	H	165-166
4	N	α-Hex	CF ₃	2-Cl-6-F	H	162-163
5	N	Mor	CF ₃	2-Cl-6-F	H	220 UP
6	N	CF ₃ CH ₂ NH-	CF ₃	2-Cl-6-F	H	214-216
7	N	i-PrNH-	CF ₃	2-Cl-6-F	H	149-151
8	N	4-Me-Pip	CF ₂ H	2-Cl-6-F	H	156-158
9	N	4-Me-Pip	CF ₃	2,4,6-F ₃	H	154-155
10	N	α-Hex	CF ₃	2,4,6-F ₃	H	162-164
11	N	4-Me-Pip	CF ₃	2-Cl-6-F	Me	142-144
12	N	α-PenNH-	CF ₃	2,4,6-F ₃	H	144-146
13	N	CF ₃ (Me)CHNH	CF ₃	2,4,6-F ₃	H	146-149

[0102] One H-NMR data of the compound of the compound number 2 (CDCl₃, δppm); 7.22 (1H, t), 7.46 (1H, t), 7.55 (1H, dt), 8.80 (1H, s)

[0103] Next, although the example of the germicide constituent of this invention is shown a little, as for an additive and an addition rate, it is possible for it not to be limited to these examples and to make it change broadly. Moreover, the section in a pharmaceutical preparation example shows the weight section.

[0104]

Example 4 Water dispersible powder This invention compound The 40 sections Clay The 48 sections Dioctyl sulfosuccinate sodium salt The four sections Ligninsulfonic acid sodium salt If it mixes to homogeneity and the 8 or more sections are ground minutely, the water dispersible powder of 40% of active principles will be obtained.

[0105]

Example 5 Emulsion This invention compound The ten sections Solvesso 200 The 53 sections Cyclohexanone The 26 sections Calcium dodecylbenzenesulfonate salt The one section Polyoxyethylene alkyl aryl ether The mixed dissolution of the 10 or more sections is carried out, and the emulsion of 10% of active principles is obtained.

[0106]

Example 6 Powder material This invention compound The ten sections Clay If it mixes to homogeneity and the 90 or more sections are ground minutely, the powder material of 10% of active principles will be obtained.

[0107]

Example 7 Granule This invention compound The five sections Clay The 73 sections Bentonite The 20 sections Dioctyl sulfosuccinate sodium salt The 1 section Potassium phosphate After improving the 1 or more sections grinding mixing, adding water and kneading together, granulation desiccation is carried out and the granule of 5% of active principles is obtained.

[0108]

Example 8 Suspension This invention compound The ten sections Polyoxyethylene alkyl aryl ether The four sections Polycarboxylic acid sodium salt The two sections The glycerol 10 section Xanthan gum The 0.2 sections Water The 73.8 or more sections are mixed, and if wet grinding is carried out until grain size becomes 3 microns or less, the suspension of 10% of active principles will be obtained.

[0109]

Example 9 Granulation water dispersible powder This invention compound The 40 sections Clay The 36

sections Potassium chloride The ten sections Alkyl-benzene-sodium-sulfonate salt The one section Ligninsulfonic acid sodium salt The eight sections Alkyl-benzene-sodium-sulfonate salt Formaldehyde condensate After mixing to homogeneity and grinding the 5 or more sections minutely, it scours, after adding the water of optimum dose, and is made the shape of clay. Subsequently, if it dries after coming a clay-like object, the water dispersible powder of 40% of active principles will be obtained.

[0110]

[Effect of the Invention] Next, the example of a trial shows that this invention compound is useful as an active principle of various plant disease prevention agents.

(Example 1 of a trial) Apple black spot prevention trial (prevention trial)

To the apple seedling (a form "country light", 3 - 4 leaf stage) grown by the biscuit pot, the emulsion of an example was sprinkled by the concentration of 200 ppm of active principles. After seasoning naturally at a room temperature, the conidium of an apple black spot bacillus (*Venturia inaequalis*) was inoculated, and it held for two weeks to the interior of a room of 20 degrees C and high humidity which repeats light and darkness every 12 hours. As a result of conducting comparison examination of the necrotic lesion appearance condition on a leaf with no processing and searching for the prevention effectiveness, the following compounds showed 75% or more of outstanding preventive value. In addition, a compound number is equivalent to the compound number in the 2nd table.

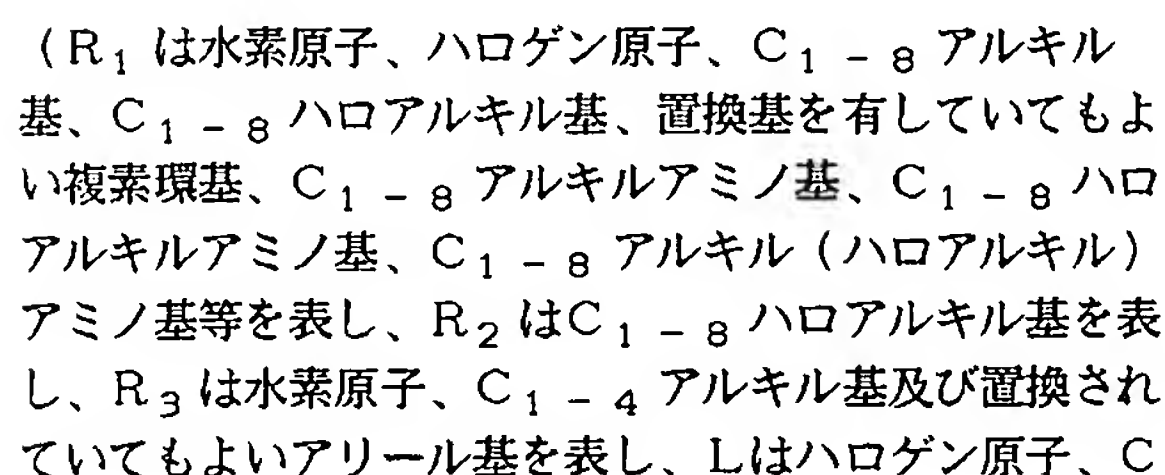
Compound number: 3, 4, 6, 7, 8, 10, 12 [0111] (Example 2 of a trial) The flower of the kidney bean (form "a **** quail") grown with the kidney bean gray mold disease prevention test seedling raising vat was excised, and it was immersed in the drug solution which adjusted the emulsion of this invention compound of an

example 4 to the concentration of 200 ppm of active principles. It seasoned naturally at the room temperature after immersion, and the spray inocuration of the kidney bean gray mold contagion (*Botrytis cinerea*) was carried out. It put on the kidney bean leaf whose inoculated flower is not processed, and held for seven days to the thermostatic chamber (20 degrees C) of the high humidity which repeats light and darkness every 12 hours. Comparison examination of the necrotic lesion diameter on a leaf was conducted with no processing, and it asked for preventive value. Consequently, the following compounds showed 75% or more of outstanding preventive value. In addition, a compound number is equivalent to the compound number in the 2nd table.

Compound number: 3, 4, 6, 7, 8, 10, 12

[Translation done.]

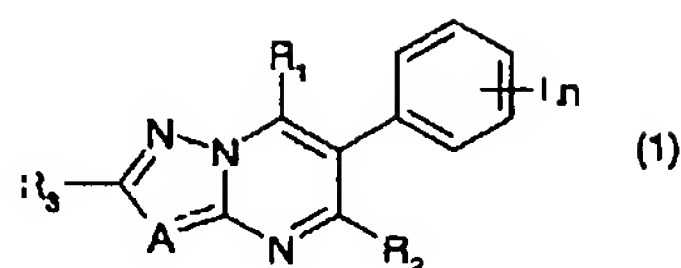
(11)特許出願公開番号
特開2002-308879
(P2002-308879A)



【特許請求の範囲】

【請求項1】一般式(1)

【化1】



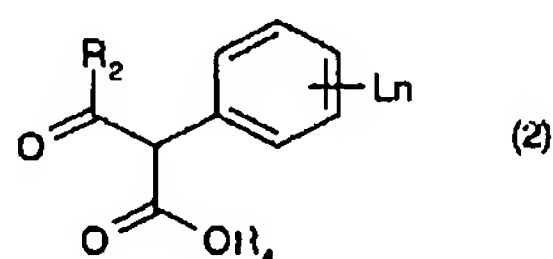
(式中、R₁ は、水素原子、ヒドロキシ基、ハロゲン原子、C₁ - 8 アルキル基、C₂ - 8 アルケニル基、C₂ - 8 アルキニル基、C₃ - 8 シクロアルキル基、C₃ - 8 シクロアルケニル基、C₁ - 8 ハロアルキル基、置換基を有していてもよい複素環基、置換基を有していてもよいアリール基、アミノ基、C₁ - 8 アルキルアミノ基、C₁ - 8 ハロアルキルアミノ基、C₁ - 8 アルキル(ハロアルキル)アミノ基又はC₁ - 8 ジアルキルアミノ基を表す。ここで複素環基は、ピリジル基、ピロリジニル基、ピペラジニル基、モルホリニル基又はピペリジル基を表す。R₂ は、C₁ - 8 ハロアルキル基を表し、

R₃ は、水素原子、C₁ - 4 アルキル基、置換基を有していてもよいアリール基を表し、

Lは、ハロゲン原子、C₁ - 4 アルキル基、C₁ - 3 ハロアルキル基、C₁ - 4 アルコキシ基又はC₁ - 3 ハロアルコキシ基を表す。nは、0又は1～5の整数を表し、Aは、N又はCHを表す。)で表されるアゾロピリミジン化合物又はその塩。

【請求項2】一般式(2)

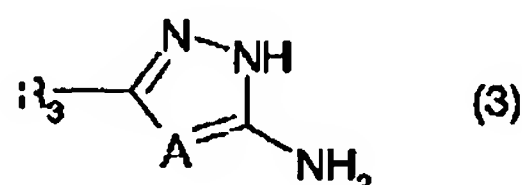
【化2】



(式中、R₂、L及びnは前記と同じ意味を表し、R₄は、C₁ - 4 アルキル基又は置換基を有していてもよいフェニル基を表す。)で表される化合物と、一般式

(3)

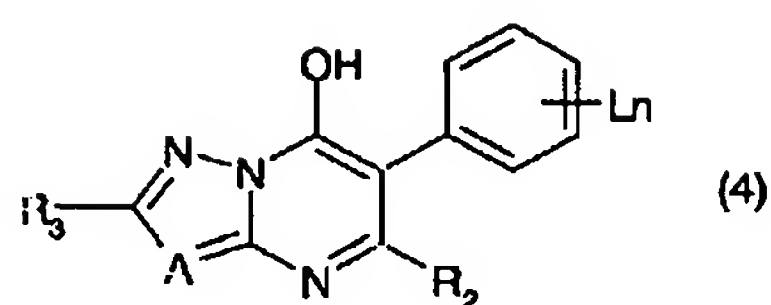
【化3】



(式中、A及びR₃は前記と同じ意味を表す。)で表される化合物とを反応させることを特徴とする、一般式

(4)

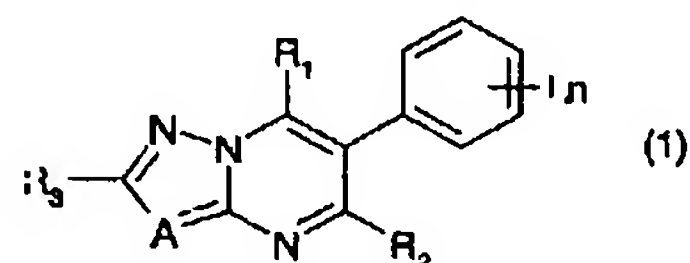
【化4】



(式中、A、R₂、R₃、L及びnは前記と同じ意味を表す。)で表されるアゾロピリミジン化合物の製造方法。

【請求項3】一般式(1)

【化5】



(式中、A、R₁、R₂、R₃、L及びnは前記と同じ意味を表す。)で表されるアゾロピリミジン化合物若しくはその塩の1種又は2種以上を有効成分として含有することを特徴とする有害生物防除剤。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、新規なアゾロピリミジン化合物、その製造方法及び該化合物を有効成分として含有する有害生物防除剤に関する。

【0002】

【従来の技術】農園芸作物の栽培に当り、作物の病害に対して多数の防除薬剤が使用されているが、その防除効力が不十分であったり、薬剤耐性の病原菌の出現によりその使用が制限されたり、また植物体に薬害や汚染を生じたり、あるいは人畜魚類に対する毒性や環境への影響の観点から、必ずしも満足すべき防除薬とは言い難いものが少なくない。従って、かかる欠点の少ない安全に使用できる薬剤の出現が強く要請されている。

【0003】本発明化合物に類似したアゾロピリミジン化合物としては、例えば、WO99/41255号公報、USP. 5756590号公報、特開平11-035581号公報等に、トリアゾロピリミジン化合物の5位がメチル基又は塩素原子等で置換された化合物が農園芸用殺菌剤として有用であることが記載されている。

【0004】しかし、本発明の如くアゾロピリミジン環の5位にハロアルキル基を有する化合物は記載されていない。また、製造中間体である2-フェニル-4-ハロゲノ-3-オキソブチレートは文献未記載の新規化合物である。

【0005】

【発明が解決しようとする課題】本発明は、効果が確実に安全に使用できる有害生物防除剤となりうる新規アゾロピリミジン化合物、その製造方法、及びこれらを有効成分として含有する有害生物防除剤を提供することを目的とする。

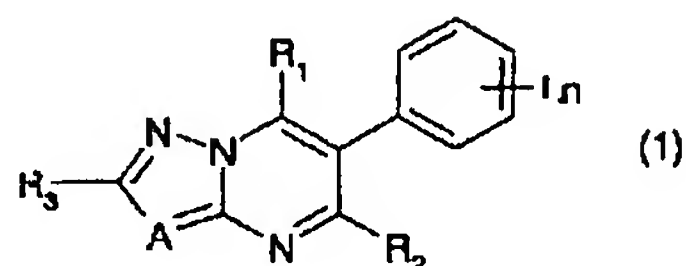
【0006】

【課題を解決するための手段】本発明は、

1) 一般式 (1)

【0007】

【化6】

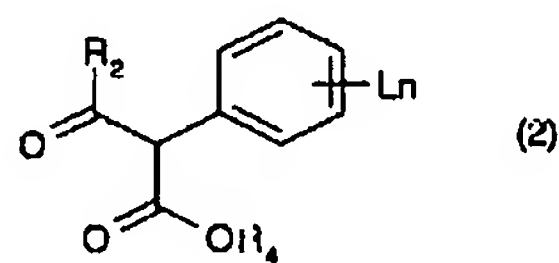


【0008】(式中、 R_1 は、水素原子、ヒドロキシ基、ハロゲン原子、 $C_1 - 8$ アルキル基、 $C_2 - 8$ アルケニル基、 $C_2 - 8$ アルキニル基、 $C_3 - 8$ シクロアルキル基、 $C_3 - 8$ シクロアルケニル基、 $C_1 - 8$ ハロアルキル基、置換基を有していてもよい複素環基、置換基を有していてもよいアリール基、アミノ基、 $C_1 - 8$ アルキルアミノ基、 $C_1 - 8$ ハロアルキルアミノ基、 $C_1 - 8$ アルキル(ハロアルキル)アミノ基又は $C_1 - 8$ ジアルキルアミノ基を表す。ここで複素環基は、ピリジル基、ピロリジニル基、ピペラジニル基、モルホリニル基又はピペリジニル基を表す。 R_2 は、 $C_1 - 8$ ハロアルキル基を表し、 R_3 は、水素原子、 $C_1 - 4$ アルキル基、置換基を有していてもよいアリール基を表し、 L は、ハロゲン原子、 $C_1 - 4$ アルキル基、 $C_1 - 3$ ハロアルキル基、 $C_1 - 4$ アルコキシ基、 $C_1 - 3$ ハロアルコキシ基を表す。 n は、0又は1~5の整数を表し、 A は、N又はCHを表す。)で表されるアゾロピリミジン化合物又はその塩

2) 一般式 (2)

【0009】

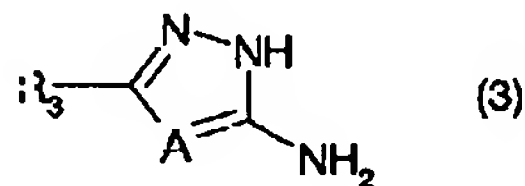
【化7】



【0010】(式中、 R_2 、 L 及び n は前記と同じ意味を表し、 R_4 は、 $C_1 - 4$ アルキル基又は置換基を有していてもよいフェニル基を表す。)で表される化合物と、一般式 (3)

【0011】

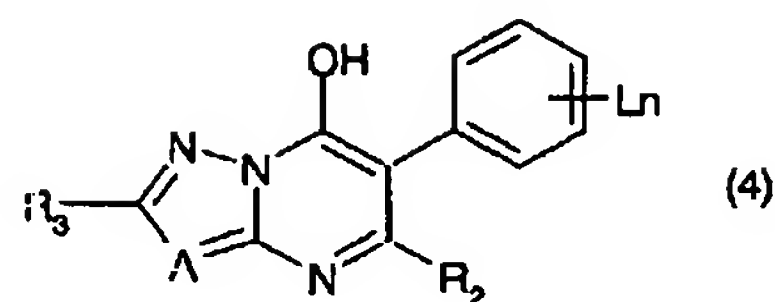
【化8】



【0012】(式中、 A 及び R_3 は前記と同じ意味を表す。)で表される化合物とを反応させることを特徴とする、一般式 (4)

【0013】

【化9】

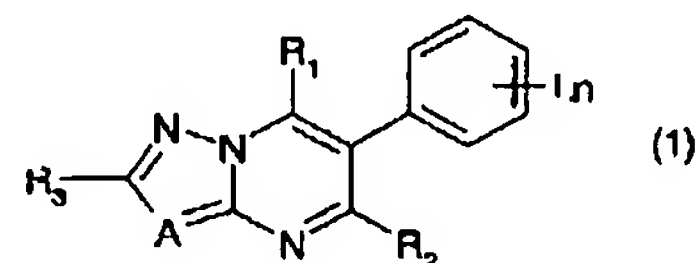


【0014】(式中、 A 、 R_2 、 R_3 、 L 及び n は前記と同じ意味を表す。)で表されるアゾロピリミジン化合物の製造方法、及び

3) 一般式 (1)

【0015】

【化10】



【0016】(式中、 A 、 R_1 、 R_2 、 R_3 、 L 及び n は前記と同じ意味を表す。)で表されるアゾロピリミジン化合物若しくはその塩の1種又は2種以上を有効成分として含有することを特徴とする有害生物防除剤である。

【0017】

【発明の実施の形態】以下本発明について詳細に説明する。前記一般式 (1) において、 R_1 は、水素原子；ヒドロキシ基；フッ素、塩素、臭素、ヨウ素等のハロゲン原子；メチル基、エチル基、 n -プロピル基、イソプロピル基、 n -ブチル基、 sec -ブチル基、 $tert$ -ブチル基等の $C_1 - 8$ アルキル基；ビニル基、1-プロペニル基、2-プロペニル基、1-ブテニル基、2-ブテニル基、3-ブテニル基等の $C_2 - 8$ アルケニル基；エチニル基、1-プロピニル基、1-ブチニル基、2-ブチニル基等の $C_2 - 8$ アルキニル基；シクロプロピル基、シクロペンチル基、シクロヘキシル基等の $C_3 - 8$ シクロアルキル基；シクロペンテニル基、シクロヘキセニル基等の $C_3 - 8$ シクロアルケニル基；フルオロメチル基、ジフルオロメチル基、トリフルオロメチル基、ジフルオロクロロメチル基、クロロメチル基、1-フルオロエチル基、2-フルオロエチル基、ペンタフルオロエチル基等の $C_3 - 8$ ハロアルキル基；1-ピリジル基、2-ピリジル基、3-ピリジル基、4-ピリジル基、1-ピペラジニル基、2-ピペラジニル基、4-メチル-1-ピペラジニル基、1-ピロリジニル基、2-ピロリジニル基、3-ピロリジニル基、1-モルホリニル基(モルホリノ基)、2-モルホリニル基、3-モルホリニル基、1-ピペリジニル基、2-ピペリニル基等の置換基を有していてもよい複素環基；フェニル基、1-ナフチル基、2-ナフチル基等の置換基を有していてもよいアリール基；アミノ基；メチルアミノ基、エチルアミノ基、イソプロピルアミノ基等の $C_1 - 8$ アルキルアミノ基；

2, 2, 2-トリフルオロエチルアミノ基等の $C_1 - 8$ ハロアルキルアミノ基; メチル(2, 2, 2-トリフルオロエチル)アミノ基、1-トリフルオロメチルエチルアミノ基等の $C_1 - 8$ アルキル(ハロアルキル)アミノ基; ジメチルアミノ基、ジエチルアミノ基等の $C_1 - 8$ ジアルキルアミノ基を表す。

【0018】前記複素環基及びアリール基の置換基としては、フッ素、塩素等のハロゲン原子; メトキシ基、エトキシ基等のアルコキシ基; ニトロ基; シアノ基; 等が挙げられる。また、複素環基及びアリール基は、任意の位置に同一又は相異なって複数の置換基を有していてもよい。

【0019】 R_2 は、フルオロメチル基、ジフルオロメチル基、トリフルオロメチル基、クロロメチル基、ジクロロメチル基、トリクロロメチル基、ジフルオロクロロメチル基、フルオロジクロロメチル基、1-フルオロエチル基、2-フルオロエチル基、2, 2, 2-トリフルオロエチル基、ペンタフルオロエチル基等の $C_1 - 8$ のハロアルキル基を表す。 R_3 は、水素原子; メチル基、エチル基等の $C_1 - 4$ アルキル基; フェニル基、2-ピリジル基、3-ピリジル基、4-ピリジル基、1-ナフ

チル基、2-ナフチル基等の置換基を有していてもよいアリール基を表す。アリール基の置換基としては、フッ素、塩素等のハロゲン原子; メトキシ基、エトキシ基等のアルコキシ基; ニトロ基; シアノ基; 等が挙げられる。また、複素環基及びアリール基は、任意の位置に同一又は相異なって複数の置換基を有していてもよい。

【0020】 L は、フッ素、塩素、臭素、ヨウ素等のハロゲン原子; メチル基、エチル基等の $C_1 - 4$ アルキル基; トリフルオロメチル基等の $C_1 - 3$ ハロアルキル基; メトキシ基、エトキシ基等の $C_1 - 4$ アルコキシ基; トリフルオロメトキシ基等の $C_1 - 3$ ハロアルコキシ基を表す。 n は、0又は1~5の整数を表し、 A は、 N 又は CH を表す。

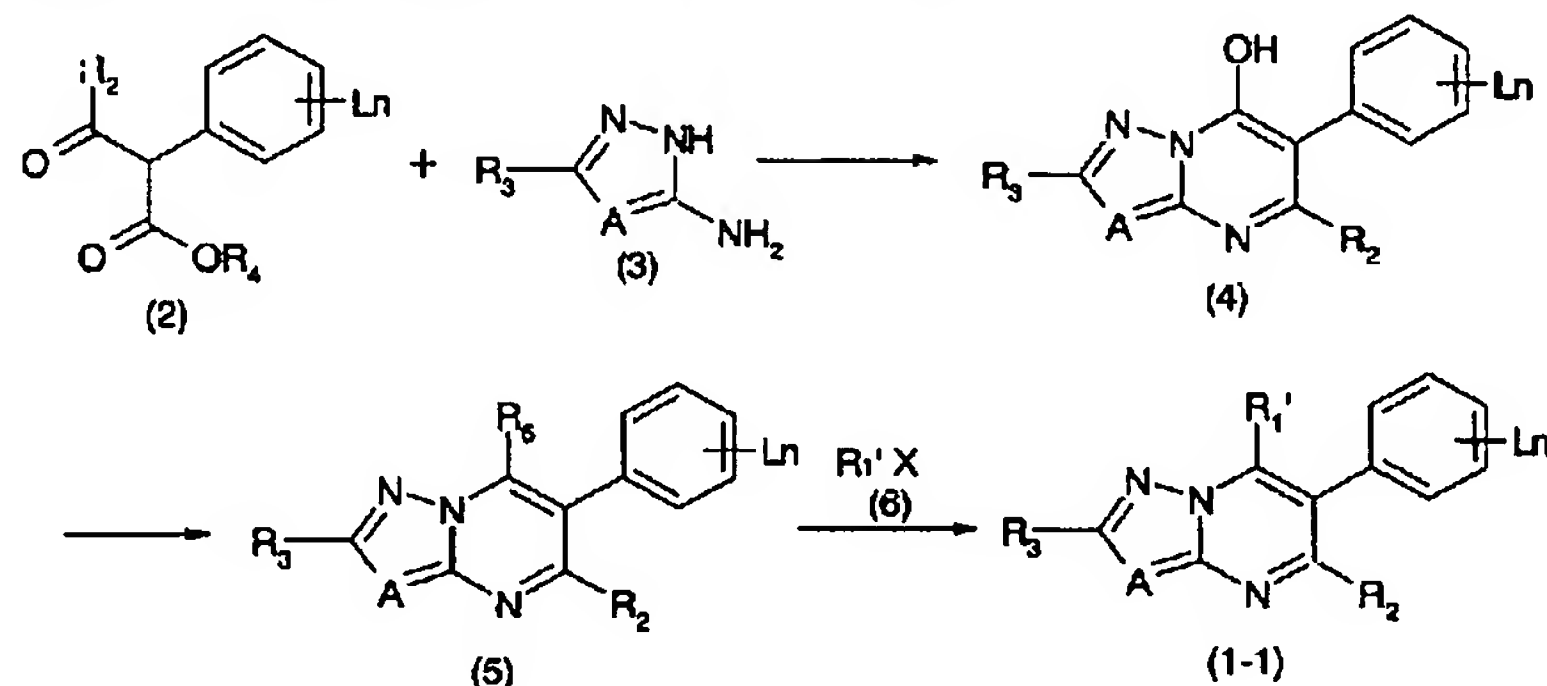
【0021】本発明の塩としては塩酸、硫酸等の鉱酸の塩や、メタンスルホン酸、酢酸、シュウ酸等の有機酸の塩を挙げることができる。

【0022】本発明化合物は以下の方法により製造することができる。

(製造法1)

【0023】

【化11】



【0024】(式中、 A 、 R_2 、 R_3 、 R_4 、 L 及び n は前記と同じ意味を表し、 R_1' は、ハロゲン原子を除く前記 R_1 で表される基を表し、 R_5 はハロゲン原子を表し、 X は、水素原子、ハロゲン原子又はハロゲン原子が置換されていてもよいマグネシウム、亜鉛、銅等の金属原子を表す。)

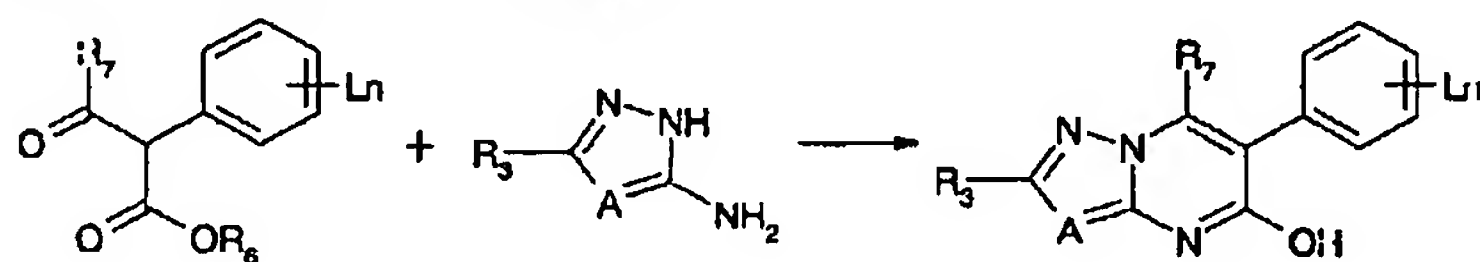
【0025】先ず、一般式(2)で表される化合物を一般式(3)で表される化合物と反応させることにより、 R_1 がヒドロキシ基である一般式(4)で表される化合物を得る。次いで、一般式(4)で表される化合物をハロゲン化することにより、 R_1 がハロゲン原子である化合物(5)を得た後、さらに、一般式(5)で表される

化合物に一般式(6)で表される化合物を反応させることにより、 R_1 がハロゲン原子でない一般式(1-1)で表される化合物を製造することができる。

【0026】なお、前記文献(WO99/41255号公報、USP. 5756590号公報)には、前記一般式(2)で表される化合物において、 R_2 がメチル基、シクロヘキシル基等である化合物と一般式(3)で表される化合物とを反応させることにより、5-ヒドロキシ体を得る方法が記載されている(下記反応式参照)。

【0027】

【化12】



【0028】(式中、 R_6 はアルキル基を表し、 R_7 は

メチル基等のアルキル基又はシクロヘキシル基等のシク

ロアルキル基を表し、A、R₃、L及びnは前記と同じ意味を表す。)

【0029】一般式(2)で表される化合物と一般式(3)で表される化合物との反応は、溶媒中、あるいは無溶媒で、-50~200℃、好ましくは50~180℃で1~48時間行われる。用いられる溶媒としては、例えば、トリエチルアミン、トリブチルアミン等のアミン類；ベンゼン、トルエン等の芳香族炭化水素類；ジエチルエーテル、テトラヒドロフラン(THF)、ジオキサン等のエーテル類；アセトニトリル等のニトリル類；N,N-ジメチルホルムアミド(DMF)等のアミド類；ジメチルスルホキシド；酢酸、プロピオン酸等のカルボン酸類；等が挙げられる。これらの中でも、酢酸等のカルボン酸類の使用が好ましい。

【0030】一般式(4)で表される化合物のハロゲン化は、一般式(4)で表される化合物にハロゲン化剤を-50~150℃、好ましくは0~120℃で1~48時間反応させることにより行われる。ハロゲン化剤としては、例えば、オキシ塩化リン、オキシ臭化リン等が用いられる。

【0031】一般式(1-1)で表される化合物は、一般式(5)で表される化合物に、溶媒中、塩基又は触媒

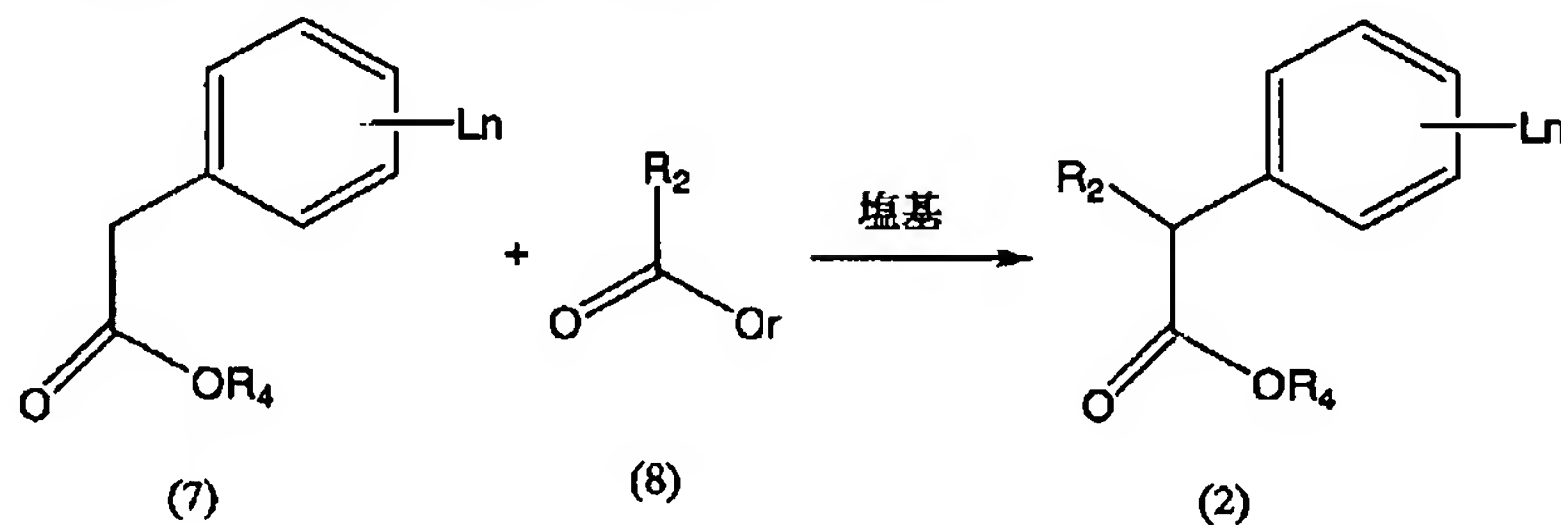
の存在下、-50~150℃、好ましくは0℃~100℃で一般式(6)で表される求核試剤を反応させることにより製造することができる。用いられる溶媒としては、例えば、ベンゼン、トルエン等の芳香族炭化水素類；ジエチルエーテル、THF、ジオキサン等のエーテル類；アセトニトリル等のニトリル類；DMF等のアミド類；ジメチルスルホキシド；等が挙げられる。これらの中でも、THF等のエーテル類の使用が好ましい。

【0032】塩基としては、例えば、水素化ナトリウム、炭酸カリウム、水酸化ナトリウム等の無機塩基；トリエチルアミン等のアミン類；炭酸銀、酸化銀等の金属塩等が挙げられる。これらの中でも、トリエチルアミン等のアミン類の使用が好ましい。また、触媒としては、例えば、ヨウ化第1銅、塩化リチウム、塩化亜鉛等の無機塩；テトラキストリフェニルホスフィンパラジウム、1,3-ビス(ジフェニルホスフィノ)プロパンニッケルクロライド等の有機金属錯体；等が挙げられる。

【0033】出発原料となる一般式(2)で表される化合物は、例えば、次のようにして製造することができる。

【0034】

【化13】



【0035】(式中、R₂、R₄、L及びnは前記と同じ意味を表し、rは、メチル基、エチル基等のC₁-4アルキル基を表す。)

すなわち、一般式(7)で表されるフェニル酢酸エステル化合物と、一般式(8)で表されるハロゲノ酢酸エステルとを、塩基の存在下に反応させることによって、一般式(2)で表される化合物を得ることができる。

【0036】反応に用いることができる塩基としては、例えば、水素化ナトリウム、水素化カリウム等の金属水素化物；ナトリウムメトキシド、カリウムメトキシド、ナトリウムエトキシド、カリウムエトキシド、マグネシウムエトキシド、カリウムt-ブトキシド等の金属アルコキシド；n-ブチルリチウム、sec-ブチルリチウム、t-ブチルリチウム等の有機金属；リチウムジイソプロピルアミド、リチウムヘキサメチルジシラジド等のアルカリ金属アミド類；等が挙げられる。

【0037】また、反応に用いられる溶媒としては、不活性な溶媒であれば特に制限はないが、反応物を溶解し得る不活性溶媒の使用が好ましい。例えば、N,N-ジメチルホルムアミド、N,N-ジメチルアセタミド、ヘ

キサメチルリン酸ホスホロアミド等のアミド系溶媒；テトラヒドロフラン、1,2-ジメトキシエタン、1,4-ジオキサン等のエーテル系溶媒；又はこれらの溶媒とベンゼン、トルエン、n-ヘキサン、シクロヘキサン等の炭化水素系溶媒との混合溶媒；等が挙げられる。

【0038】反応は、-78℃~用いられる溶媒の沸点までの温度範囲で円滑に進行する。反応終了後は、通常の後処理を行うことにより一般式(2)で表される化合物を得ることができ、本発明の化合物の製造の出発原料として用いることができる。

【0039】いずれの反応を行った場合も、反応終了後は通常の後処理を行うことにより目的物を得ることができる。本発明の化合物の構造は、IR、NMR、MAS Sスペクトル等から決定することができる。

【0040】以上のようにして得られる本発明化合物を第1表に例示する。なお、第1表中の略号はそれぞれ下記の意味を表す。

Me：メチル基、Et：エチル基、Pr：プロピル基、Bu：ブチル基、Hex：ヘキシル基、MeAl：メチルアリル基、Mor：モルホリノ基、Pyr：2-ピリ

ジル基、Pip: 1-ピペリジニル基、n: ノルマル、
i: イソ、c: シクロ

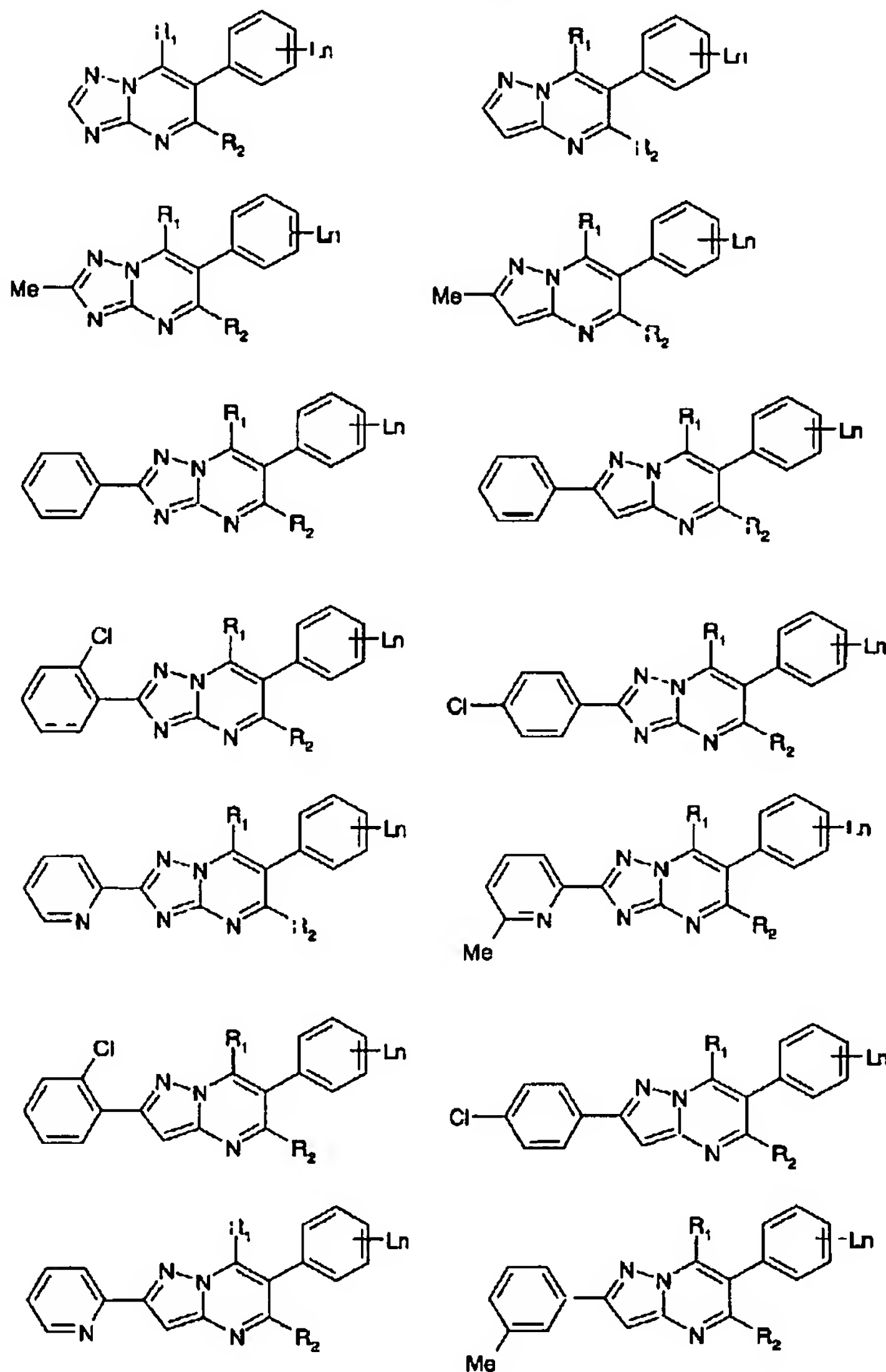
また、第1表中において、 R_1 、 R_2 、L及びnは、下

第 1 表

記化合物のそれぞれに対応している。

【0041】

【表1】



【0042】

【表2】

第 1 表(つづき)

R ₂	R ₁	Ln	iR ₂	iR ₁	Ln
CHF ₂	c-Hex	2-Cl	C ₂ F ₅	c-Hex	2-Cl
CHF ₂	c-Hex	2,4-Cl ₂	C ₂ F ₅	c-Hex	2,4-Cl ₂
CHF ₂	o-Hex	2,6-Cl ₂	C ₂ F ₅	c-Hex	2,6-Cl ₂
CHF ₂	c-Hex	2,4,6-Cl ₃	C ₂ F ₅	c-Hex	2,4,6-Cl ₃
CHF ₂	c-Hex	3-Cl	C ₂ F ₅	c-Hex	3-Cl
CHF ₂	o-Hex	2-F	C ₂ F ₅	c-Hex	2-F
CHF ₂	c-Hex	2,4-F ₂	C ₂ F ₅	c-Hex	2,4-F ₂
CHF ₂	c-Hex	2,6-F ₂	C ₂ F ₅	c-Hex	2,6-F ₂
CHF ₂	c-Hex	2,4,6-F ₃	C ₂ F ₅	c-Hex	2,4,6-F ₃
CHF ₂	c-Hex	3-F	C ₂ F ₅	c-Hex	3-F
CHF ₂	c-Hex	2-Me	C ₂ F ₅	c-Hex	2-Me
CHF ₂	c-Hex	2,4-Me ₂	C ₂ F ₅	c-Hex	2,4-Me ₂
CHF ₂	c-Hex	2,6-Me ₂	C ₂ F ₅	c-Hex	2,6-Me ₂
CHF ₂	c-Hex	2-Cl-6-F	C ₂ F ₅	c-Hex	2-Cl-6-F
CHF ₂	c-Hex	2,6-F ₂ -4-OMe	C ₂ F ₅	c-Hex	2,6-F ₂ -4-OMe
CHF ₂	c-Hex	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	c-Hex	2,6-F ₂ -4-OCF ₃
CHF ₂	c-Hex	2-Cl-6-F-4-OMe	C ₂ F ₅	c-Hex	2-Cl-6-F-4-OMe
CF ₃	c-Hex	2-Cl	CF ₂ Cl	c-Hex	2-Cl
CF ₃	c-Hex	2,4-Cl ₂	CF ₂ Cl	c-Hex	2,4-Cl ₂
CF ₃	c-Hex	2,6-Cl ₂	CF ₂ Cl	c-Hex	2,6-Cl ₂
CF ₃	c-Hex	2,4,6-Cl ₃	CF ₂ Cl	c-Hex	2,4,6-Cl ₃
CF ₃	c-Hex	3-Cl	CF ₂ Cl	c-Hex	3-Cl
CF ₃	c-Hex	2-F	CF ₂ Cl	c-Hex	2-F
CF ₃	c-Hex	2,4-F ₂	CF ₂ Cl	c-Hex	2,4-F ₂
CF ₃	o-Hex	2,6-F ₂	CF ₂ Cl	c-Hex	2,6-F ₂
CF ₃	c-Hex	2,4,6-F ₃	CF ₂ Cl	c-Hex	2,4,6-F ₃
CF ₃	c-Hex	3-F	CF ₂ Cl	c-Hex	3-F
CF ₃	o-Hex	2-Me	CF ₂ Cl	c-Hex	2-Me
CF ₃	o-Hex	2,4-Me ₂	CF ₂ Cl	c-Hex	2,4-Me ₂
CF ₃	c-Hex	2,6-Me ₂	CF ₂ Cl	c-Hex	2,6-Me ₂
CF ₃	c-Hex	2-Cl-6-F	CF ₂ Cl	c-Hex	2-Cl-6-F
CF ₃	c-Hex	2,6-F ₂ -4-OMe	CF ₂ Cl	c-Hex	2,6-F ₂ -4-OMe
CF ₃	c-Hex	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	c-Hex	2,6-F ₂ -4-OCF ₃
CF ₃	c-Hex	2-Cl-6-F-4-OMe	CF ₂ Cl	c-Hex	2-Cl-6-F-4-OMe
CH ₂ Cl	c-Hex	2-Cl	CH ₂ F	c-Hex	2-Cl
CH ₂ Cl	c-Hex	2,4-Cl ₂	CH ₂ F	c-Hex	2,4-Cl ₂

【0043】

【表3】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	c-Hex	2,6-Cl ₂	CH ₂ F	c-Hex	2,6-Cl ₂
CH ₂ Cl	c-Hex	2,4,6-Cl ₃	CH ₂ F	c-Hex	2,4,6-Cl ₃
CH ₂ Cl	c-Hex	3-Cl	CH ₂ F	c-Hex	3-Cl
CH ₂ Cl	c-Hex	2-F	CH ₂ F	c-Hex	2-F
CH ₂ Cl	c-Hex	2,4-F ₂	CH ₂ F	c-Hex	2,4-F ₂
CH ₂ Cl	c-Hex	2,6-F ₂	CH ₂ F	c-Hex	2,6-F ₂
CH ₂ Cl	c-Hex	2,4,6-F ₃	CH ₂ F	c-Hex	2,4,6-F ₃
CH ₂ Cl	c-Hex	3-F	CH ₂ F	c-Hex	3-F
CH ₂ Cl	c-Hex	2-Me	CH ₂ F	c-Hex	2-Me
CH ₂ Cl	c-Hex	2,4-Me ₂	CH ₂ F	c-Hex	2,4-Me ₂
CH ₂ Cl	c-Hex	2,6-Me ₂	CH ₂ F	c-Hex	2,6-Me ₂
CH ₂ Cl	c-Hex	2-Cl-6-F	CH ₂ F	c-Hex	2-Cl-6-F
CH ₂ Cl	c-Hex	2,6-F ₂ -4-OMe	CH ₂ F	c-Hex	2,6-F ₂ -4-OMe
CH ₂ Cl	c-Hex	2,6-F ₂ -4-OCF ₃	CH ₂ F	c-Hex	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	c-Hex	2-Cl-6-F-4-OMe	CH ₂ F	c-Hex	2-Cl-6-F-4-OMe
CHCl ₂	Pip	2-Cl	C ₂ F ₅	Pip	2-Cl
CHCl ₂	Pip	2,4-Cl ₂	C ₂ F ₅	Pip	2,4-Cl ₂
CHCl ₂	Pip	2,6-Cl ₂	C ₂ F ₅	Pip	2,6-Cl ₂
CHCl ₂	Pip	2,4,6-Cl ₃	C ₂ F ₅	Pip	2,4,6-Cl ₃
CHF ₂	Pip	3-Cl	C ₂ F ₆	Pip	3-Cl
CHCl ₂	Pip	2-F	C ₂ F ₅	Pip	2-F
CHCl ₂	Pip	2,4-F ₂	C ₂ F ₅	Pip	2,4-F ₂
CHCl ₂	Pip	2,6-F ₂	C ₂ F ₆	Pip	2,6-F ₂
CHCl ₂	Pip	2,4,6-F ₃	C ₂ F ₅	Pip	2,4,6-F ₃
CHF ₂	Pip	3-F	C ₂ F ₅	Pip	3-F
CHF ₂	Pip	2-Me	C ₂ F ₅	Pip	2-Me
CHF ₂	Pip	2,4-Me ₂	C ₂ F ₅	Pip	2,4-Me ₂
CHF ₂	Pip	2,6-Me ₂	C ₂ F ₅	Pip	2,6-Me ₂
CHF ₂	Pip	2-Cl-6-F	C ₂ F ₅	Pip	2-Cl-6-F
CHCl ₂	Pip	2,6-F ₂ -4-OMe	C ₂ F ₅	Pip	2,6-F ₂ -4-OMe
CHCl ₂	Pip	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	Pip	2,6-F ₂ -4-OCF ₃
CHCl ₂	Pip	2-Cl-6-F-4-OMe	C ₂ F ₅	Pip	2-Cl-6-F-4-OMe
CF ₃	Pip	2-Cl	CF ₂ Cl	Pip	2-Cl
CF ₃	Pip	2,4-Cl ₂	CF ₂ Cl	Pip	2,4-Cl ₂
CF ₃	Pip	2,6-Cl ₂	CF ₂ Cl	Pip	2,6-Cl ₂
CF ₃	Pip	2,4,6-Cl ₃	CF ₂ Cl	Pip	2,4,6-Cl ₃

【0044】

【表4】

第 1 表(つづき)

R_2	R_1	L_n	R_2	R_1	L_n
CF_3	Pip	3-Cl	CF_2Cl	Pip	3-Cl
CF_3	Pip	2-F	CF_2Cl	Pip	2-F
CF_3	Pip	2,4- F_2	CF_2Cl	Pip	2,4- F_2
CF_3	Pip	2,6- F_2	CF_2Cl	Pip	2,6- F_2
CF_3	Pip	2,4,6- F_3	CF_2Cl	Pip	2,4,6- F_3
CF_3	Pip	3-F	CF_2Cl	Pip	3-F
CF_3	Pip	2-Me	CF_2Cl	Pip	2-Me
CF_3	Pip	2,4- Me_2	CF_2Cl	Pip	2,4- Me_2
CF_3	Pip	2,6- Me_2	CF_2Cl	Pip	2,6- Me_2
CF_3	Pip	2-Cl-6-F	CF_2Cl	Pip	2-Cl-6-F
CF_3	Pip	2,6- F_2 -4-OMe	CF_2Cl	Pip	2,6- F_2 -4-OMe
CF_3	Pip	2,6- F_2 -4-OCF ₃	CF_2Cl	Pip	2,6- F_2 -4-OCF ₃
CF_3	Pip	2-Cl-6-F-4-OMe	CF_2Cl	Pip	2-Cl-6-F-4-OMe
CH_2Cl	Pip	2-Cl	CH_2F	Pip	2-Cl
CH_2Cl	Pip	2,4- Cl_2	CH_2F	Pip	2,4- Cl_2
CH_2Cl	Pip	2,6- Cl_2	CH_2F	Pip	2,6- Cl_2
CH_2Cl	Pip	2,4,6- Cl_3	CH_2F	Pip	2,4,6- Cl_3
CH_2Cl	Pip	3-Cl	CH_2F	Pip	3-Cl
CH_2Cl	Pip	2-F	CH_2F	Pip	2-F
CH_2Cl	Pip	2,4- F_2	CH_2F	Pip	2,4- F_2
CH_2Cl	Pip	2,6- F_2	CH_2F	Pip	2,6- F_2
CH_2Cl	Pip	2,4,6- F_3	CH_2F	Pip	2,4,6- F_3
CH_2Cl	Pip	3-F	CH_2F	Pip	3-F
CH_2Cl	Pip	2-Me	CH_2F	Pip	2-Me
CH_2Cl	Pip	2,4- Me_2	CH_2F	Pip	2,4- Me_2
CH_2Cl	Pip	2,6- Me_2	CH_2F	Pip	2,6- Me_2
CH_2Cl	Pip	2-Cl-6-F	CH_2F	Pip	2-Cl-6-F
CH_2Cl	Pip	2,6- F_2 -4-OMe	CH_2F	Pip	2,6- F_2 -4-OMe
CH_2Cl	Pip	2,6- F_2 -4-OCF ₃	CH_2F	Pip	2,6- F_2 -4-OCF ₃
CH_2Cl	Pip	2-Cl-6-F-4-OMe	CH_2F	Pip	2-Cl-6-F-4-OMe
CHF_2	4-Me-Pip	2-Cl	C_2F_5	4-Me-Pip	2-Cl
CHF_2	4-Me-Pip	2,4- Cl_2	C_2F_5	4-Me-Pip	2,4- Cl_2
CHF_2	4-Me-Pip	2,6- Cl_2	C_2F_5	4-Me-Pip	2,6- Cl_2
CHF_2	4-Me-Pip	2,4,6- Cl_3	C_2F_5	4-Me-Pip	2,4,6- Cl_3
CHF_2	4-Me-Pip	3-Cl	C_2F_5	4-Me-Pip	3-Cl
CHF_2	4-Me-Pip	2-F	C_2F_5	4-Me-Pip	2-F

【0045】

【表5】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	4-Me-Pip	2,4-F ₂	C ₂ F ₅	4-Me-Pip	2,4-F ₂
CHF ₂	4-Me-Pip	2,6-F ₂	C ₂ F ₅	4-Me-Pip	2,6-F ₂
CHF ₂	4-Me-Pip	2,4,6-F ₃	C ₂ F ₅	4-Me-Pip	2,4,6-F ₃
CHF ₂	4-Me-Pip	3-F	C ₂ F ₅	4-Me-Pip	3-F
CHF ₂	4-Me-Pip	2-Me	C ₂ F ₅	4-Me-Pip	2-Me
CHF ₂	4-Me-Pip	2,4-Me ₂	C ₂ F ₅	4-Me-Pip	2,4-Me ₂
CHF ₂	4-Me-Pip	2,6-Me ₂	C ₂ F ₅	4-Me-Pip	2,6-Me ₂
CHF ₂	4-Me-Pip	2-Cl-6-F	C ₂ F ₅	4-Me-Pip	2-Cl-6-F
CHF ₂	4-Me-Pip	2,6-F ₂ -4-OMe	C ₂ F ₅	4-Me-Pip	2,6-F ₂ -4-OMe
CHF ₂	4-Me-Pip	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	4-Me-Pip	2,6-F ₂ -4-OCF ₃
CHF ₂	4-Me-Pip	2-Cl-6-F-4-OMe	C ₂ F ₅	4-Me-Pip	2-Cl-6-F-4-OMe
CF ₃	4-Me-Pip	2-Cl	CF ₂ Cl	4-Me-Pip	2-Cl
CF ₃	4-Me-Pip	2,4-Cl ₂	CF ₂ Cl	4-Me-Pip	2,4-Cl ₂
CF ₃	4-Me-Pip	2,6-Cl ₂	CF ₂ Cl	4-Me-Pip	2,6-Cl ₂
CF ₃	4-Me-Pip	2,4,6-Cl ₃	CF ₂ Cl	4-Me-Pip	2,4,6-Cl ₃
CF ₃	4-Me-Pip	3-Cl	CF ₂ Cl	4-Me-Pip	3-Cl
CF ₃	4-Me-Pip	2-F	CF ₂ Cl	4-Me-Pip	2-F
CF ₃	4-Me-Pip	2,4-F ₂	CF ₂ Cl	4-Me-Pip	2,4-F ₂
CF ₃	4-Me-Pip	2,6-F ₂	CF ₂ Cl	4-Me-Pip	2,6-F ₂
CF ₃	4-Me-Pip	2,4,6-F ₃	CF ₂ Cl	4-Me-Pip	2,4,6-F ₃
CF ₃	4-Me-Pip	3-F	CF ₂ Cl	4-Me-Pip	3-F
CF ₃	4-Me-Pip	2-Me	CF ₂ Cl	4-Me-Pip	2-Me
CF ₃	4-Me-Pip	2,4-Me ₂	CF ₂ Cl	4-Me-Pip	2,4-Me ₂
CF ₃	4-Me-Pip	2,6-Me ₂	CF ₂ Cl	4-Me-Pip	2,6-Me ₂
CF ₃	4-Me-Pip	2-Cl-6-F	CF ₂ Cl	4-Me-Pip	2-Cl-6-F
CF ₃	4-Me-Pip	2,6-F ₂ -4-OMe	CF ₂ Cl	4-Me-Pip	2,6-F ₂ -4-OMe
CF ₃	4-Me-Pip	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	4-Me-Pip	2,6-F ₂ -4-OCF ₃
CF ₃	4-Me-Pip	2-Cl-6-F-4-OMe	CF ₂ Cl	4-Me-Pip	2-Cl-6-F-4-OMe
CH ₂ Cl	4-Me-Pip	2-Cl	CH ₂ I	4-Me-Pip	2-Cl
CH ₂ Cl	4-Me-Pip	2,4-Cl ₂	CH ₂ I	4-Me-Pip	2,4-Cl ₂
CH ₂ Cl	4-Me-Pip	2,6-Cl ₂	CH ₂ I	4-Me-Pip	2,6-Cl ₂
CH ₂ Cl	4-Me-Pip	2,4,6-Cl ₃	CH ₂ I	4-Me-Pip	2,4,6-Cl ₃
CH ₂ Cl	4-Me-Pip	3-Cl	CH ₂ I	4-Me-Pip	3-Cl
CH ₂ Cl	4-Me-Pip	2-F	CH ₂ I	4-Me-Pip	2-F
CH ₂ Cl	4-Me-Pip	2,4-F ₂	CH ₂ I	4-Me-Pip	2,4-F ₂
CH ₂ Cl	4-Me-Pip	2,6-F ₂	CH ₂ I	4-Me-Pip	2,6-F ₂

【 0046 】

【 表 6 】

第 1 表(つづき)

R_2	R_1	L_n	R_2	R_1	L_n
CH_2Cl	4-Me-Pip	2,4,6- F_3	ClH_2F	4-Me-Pip	2,4,6- F_3
CH_2Cl	4-Me-Pip	3-F	ClH_2F	4-Me-Pip	3-F
CH_2Cl	4-Me-Pip	2-Me	ClH_2F	4-Me-Pip	2-Me
CH_2Cl	4-Me-Pip	2,4-Me ₂	ClH_2F	4-Me-Pip	2,4-Me ₂
CH_2Cl	4-Me-Pip	2,6-Me ₂	ClH_2F	4-Me-Pip	2,6-Me ₂
CH_2Cl	4-Me-Pip	2-Cl-6-F	ClH_2F	4-Me-Pip	2-Cl-6-F
CH_2Cl	4-Me-Pip	2,6- F_2 -4-OMe	ClH_2F	4-Me-Pip	2,6- F_2 -4-OMe
CH_2Cl	4-Me-Pip	2,6- F_2 -4-OCF ₃	ClH_2F	4-Me-Pip	2,6- F_2 -4-OCF ₃
CH_2Cl	4-Me-Pip	2-Cl-6-F-4-OMe	ClH_2F	4-Me-Pip	2-Cl-6-F-4-OMe
CHF_2	Pyr	2-Cl	C_2F_6	Pyr	2-Cl
CHF_2	Pyr	2,4-Cl ₂	C_2F_6	Pyr	2,4-Cl ₂
CHF_2	Pyr	2,6-Cl ₂	C_2F_6	Pyr	2,6-Cl ₂
CHF_2	Pyr	2,4,6-Cl ₃	C_2F_6	Pyr	2,4,6-Cl ₃
CHF_2	Pyr	3-Cl	C_2F_6	Pyr	3-Cl
CHF_2	Pyr	2-F	C_2F_6	Pyr	2-F
CHF_2	Pyr	2,4- F_2	C_2F_6	Pyr	2,4- F_2
CHF_2	Pyr	2,6- F_2	C_2F_6	Pyr	2,6- F_2
CHF_2	Pyr	2,4,6- F_3	C_2F_6	Pyr	2,4,6- F_3
CHF_2	Pyr	3-F	C_2F_6	Pyr	3-F
CHF_2	Pyr	2-Me	C_2F_6	Pyr	2-Me
CHF_2	Pyr	2,4-Me ₂	C_2F_6	Pyr	2,4-Me ₂
CHF_2	Pyr	2,6-Me ₂	C_2F_6	Pyr	2,6-Me ₂
CHF_2	Pyr	2-Cl-6-F	C_2F_6	Pyr	2-Cl-6-F
CHF_2	Pyr	2,6- F_2 -4-OMe	C_2F_6	Pyr	2,6- F_2 -4-OMe
CHF_2	Pyr	2,6- F_2 -4-OCF ₃	C_2F_6	Pyr	2,6- F_2 -4-OCF ₃
CHF_2	Pyr	2-Cl-6-F-4-OMe	C_2F_6	Pyr	2-Cl-6-F-4-OMe
CF_3	Pyr	2-Cl	CF_2Cl	Pyr	2-Cl
CF_3	Pyr	2,4-Cl ₂	CF_2Cl	Pyr	2,4-Cl ₂
CF_3	Pyr	2,6-Cl ₂	CF_2Cl	Pyr	2,6-Cl ₂
CF_3	Pyr	2,4,6-Cl ₃	CF_2Cl	Pyr	2,4,6-Cl ₃
CF_3	Pyr	3-Cl	CF_2Cl	Pyr	3-Cl
CF_3	Pyr	2-F	CF_2Cl	Pyr	2-F
CF_3	Pyr	2,4- F_2	CF_2Cl	Pyr	2,4- F_2
CF_3	Pyr	2,6- F_2	CF_2Cl	Pyr	2,6- F_2
CF_3	Pyr	2,4,6- F_3	CF_2Cl	Pyr	2,4,6- F_3
CF_3	Pyr	3-F	CF_2Cl	Pyr	3-F

【 0047 】

【 表 7 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	Pyr	2-Me	CF ₂ Cl	Pyr	2-Me
CF ₃	Pyr	2,4-Me ₂	CF ₂ Cl	Pyr	2,4-Me ₂
CF ₃	Pyr	2,6-Me ₂	CF ₂ Cl	Pyr	2,6-Me ₂
CF ₃	Pyr	2-Cl-6-F	CF ₂ Cl	Pyr	2-Cl-6-F
CF ₃	Pyr	2,6-F ₂ -4-OMe	CF ₂ Cl	Pyr	2,6-F ₂ -4-OMe
CF ₃	Pyr	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	Pyr	2,6-F ₂ -4-OCF ₃
CF ₃	Pyr	2-Cl-6-F-4-OMe	CF ₂ Cl	Pyr	2-Cl-6-F-4-OMe
CH ₂ Cl	Pyr	2-Cl	CH ₂ F	Pyr	2-Cl
CH ₂ Cl	Pyr	2,4-Cl ₂	CH ₂ F	Pyr	2,4-Cl ₂
CH ₂ Cl	Pyr	2,6-Cl ₂	CH ₂ F	Pyr	2,6-Cl ₂
CH ₂ Cl	Pyr	2,4,6-Cl ₃	CH ₂ F	Pyr	2,4,6-Cl ₃
CH ₂ Cl	Pyr	3-Cl	CH ₂ F	Pyr	3-Cl
CH ₂ Cl	Pyr	2-F	CH ₂ F	Pyr	2-F
CH ₂ Cl	Pyr	2,4-F ₂	CH ₂ F	Pyr	2,4-F ₂
CH ₂ Cl	Pyr	2,6-F ₂	CH ₂ F	Pyr	2,6-F ₂
CH ₂ Cl	Pyr	2,4,6-F ₃	CH ₂ F	Pyr	2,4,6-F ₃
CH ₂ Cl	Pyr	3-F	CH ₂ F	Pyr	3-F
CH ₂ Cl	Pyr	2-Me	CH ₂ F	Pyr	2-Me
CH ₂ Cl	Pyr	2,4-Me ₂	CH ₂ F	Pyr	2,4-Me ₂
CH ₂ Cl	Pyr	2,6-Me ₂	CH ₂ F	Pyr	2,6-Me ₂
CH ₂ Cl	Pyr	2-Cl-6-F	CH ₂ F	Pyr	2-Cl-6-F
CH ₂ Cl	Pyr	2,6-F ₂ -4-OMe	CH ₂ F	Pyr	2,6-F ₂ -4-OMe
CH ₂ Cl	Pyr	2,6-F ₂ -4-OCF ₃	CH ₂ F	Pyr	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	Pyr	2-Cl-6-F-4-OMe	CH ₂ F	Pyr	2-Cl-6-F-4-OMe
CH ₂ F	n-Bu	2-Cl	C ₂ F ₅	n-Bu	2-Cl
CH ₂ F	n-Bu	2,4-Cl ₂	C ₂ F ₅	n-Bu	2,4-Cl ₂
CH ₂ F	n-Bu	2,6-Cl ₂	C ₂ F ₅	n-Bu	2,6-Cl ₂
CH ₂ F	n-Bu	2,4,6-Cl ₃	C ₂ F ₅	n-Bu	2,4,6-Cl ₃
CH ₂ F	n-Bu	3-Cl	C ₂ F ₅	n-Bu	3-Cl
CH ₂ F	n-Bu	2-F	C ₂ F ₅	n-Bu	2-F
CH ₂ F	n-Bu	2,4-F ₂	C ₂ F ₅	n-Bu	2,4-F ₂
CHF ₂	n-Bu	2,6-F ₂	C ₂ F ₅	n-Bu	2,6-F ₂
CHF ₂	n-Bu	2,4,6-F ₃	C ₂ F ₅	n-Bu	2,4,6-F ₃
CHF ₂	n-Bu	3-F	C ₂ F ₅	n-Bu	3-F
CHF ₂	n-Bu	2-Me	C ₂ F ₅	n-Bu	2-Me
CHF ₂	n-Bu	2,4-Me ₂	C ₂ F ₅	n-Bu	2,4-Me ₂

【 0048 】

【 表 8 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ F ₂	n-Bu	2,6-Me ₂	C ₂ F ₆	n-Bu	2,6-Me ₂
CH ₂ F ₂	n-Bu	2-Cl-6-F	C ₂ F ₅	n-Bu	2-Cl-6-F
CH ₂ F ₂	n-Bu	2,6-F ₂ -4-OMe	C ₂ F ₅	n-Bu	2,6-F ₂ -4-OMe
CH ₂ F ₂	n-Bu	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	n-Bu	2,6-F ₂ -4-OCF ₃
CH ₂ F ₂	n-Bu	2-Cl-6-F-4-OMe	C ₂ F ₅	n-Bu	2-Cl-6-F-4-OMe
CF ₃	n-Bu	2-Cl	CF ₂ Cl	n-Bu	2-Cl
CF ₃	n-Bu	2,4-Cl ₂	CF ₂ Cl	n-Bu	2,4-Cl ₂
CF ₃	n-Bu	2,6-Cl ₂	CF ₂ Cl	n-Bu	2,6-Cl ₂
CF ₃	n-Bu	2,4,6-Cl ₃	CF ₂ Cl	n-Bu	2,4,6-Cl ₃
CF ₃	n-Bu	3-Cl	CF ₂ Cl	n-Bu	3-Cl
CF ₃	n-Bu	2-F	CF ₂ Cl	n-Bu	2-F
CF ₃	n-Bu	2,4-F ₂	CF ₂ Cl	n-Bu	2,4-F ₂
CF ₃	n-Bu	2,6-F ₂	CF ₂ Cl	n-Bu	2,6-F ₂
CF ₃	n-Bu	2,4,6-F ₃	CF ₂ Cl	n-Bu	2,4,6-F ₃
CF ₃	n-Bu	3-F	CF ₂ Cl	n-Bu	3-F
CF ₃	n-Bu	2-Me	CF ₂ Cl	n-Bu	2-Me
CF ₃	n-Bu	2,4-Me ₂	CF ₂ Cl	n-Bu	2,4-Me ₂
CF ₃	n-Bu	2,6-Me ₂	CF ₂ Cl	n-Bu	2,6-Me ₂
CF ₃	n-Bu	2-Cl-6-F	CF ₂ Cl	n-Bu	2-Cl-6-F
CF ₃	n-Bu	2,6-F ₂ -4-OMe	CF ₂ Cl	n-Bu	2,6-F ₂ -4-OMe
CF ₃	n-Bu	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	n-Bu	2,6-F ₂ -4-OCF ₃
CF ₃	n-Bu	2-Cl-6-F-4-OMe	CF ₂ Cl	n-Bu	2-Cl-6-F-4-OMe
CH ₂ Cl	n-Bu	2-Cl	CH ₂ F	n-Bu	2-Cl
CH ₂ Cl	n-Bu	2,4-Cl ₂	CH ₂ F	n-Bu	2,4-Cl ₂
CH ₂ Cl	n-Bu	2,6-Cl ₂	CH ₂ F	n-Bu	2,6-Cl ₂
CH ₂ Cl	n-Bu	2,4,6-Cl ₃	CH ₂ F	n-Bu	2,4,6-Cl ₃
CH ₂ Cl	n-Bu	3-Cl	CH ₂ F	n-Bu	3-Cl
CH ₂ Cl	n-Bu	2-F	CH ₂ F	n-Bu	2-F
CH ₂ Cl	n-Bu	2,4-F ₂	CH ₂ F	n-Bu	2,4-F ₂
CH ₂ Cl	n-Bu	2,6-F ₂	CH ₂ F	n-Bu	2,6-F ₂
CH ₂ Cl	n-Bu	2,4,6-F ₃	CH ₂ F	n-Bu	2,4,6-F ₃
CH ₂ Cl	n-Bu	3-F	CH ₂ F	n-Bu	3-F
CH ₂ Cl	n-Bu	2-Me	CH ₂ F	n-Bu	2-Me
CH ₂ Cl	n-Bu	2,4-Me ₂	CH ₂ F	n-Bu	2,4-Me ₂
CH ₂ Cl	n-Bu	2,6-Me ₂	CH ₂ F	n-Bu	2,6-Me ₂
CH ₂ Cl	n-Bu	2-Cl-6-F	CH ₂ F	n-Bu	2-Cl-6-F

【 0049 】

【 表 9 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	n-Bu	2,6-F ₂ -4-OMe	CH ₂ F	n-Bu	2,6-F ₂ -4-OMe
CH ₂ Cl	n-Bu	2,6-F ₂ -4-OCF ₃	CH ₂ F	n-Bu	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	n-Bu	2-Cl-6-F-4-OMe	CH ₂ F	n-Bu	2-Cl-6-F-4-OMe
CH ₂ F	CF ₃ CH ₂ NH	2-Cl	C ₂ F ₆	CF ₃ CH ₂ NH	2-Cl
CH ₂ F	CF ₃ CH ₂ NH	2,4-Cl ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,4-Cl ₂
CH ₂ F	CF ₃ CH ₂ NH	2,6-Cl ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-Cl ₂
CH ₂ F	CF ₃ CH ₂ NH	2,4,6-Cl ₃	C ₂ F ₆	CF ₃ CH ₂ NH	2,4,6-Cl ₃
CH ₂ F	CF ₃ CH ₂ NH	3-Cl	C ₂ F ₅	CF ₃ CH ₂ NH	3-Cl
CH ₂ F	CF ₃ CH ₂ NH	2-F	C ₂ F ₅	CF ₃ CH ₂ NH	2-F
CH ₂ F	CF ₃ CH ₂ NH	2,4-F ₂	C ₂ F ₆	CF ₃ CH ₂ NH	2,4-F ₂
CH ₂ F	CF ₃ CH ₂ NH	2,6-F ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-F ₂
CH ₂ F	CF ₃ CH ₂ NH	2,4,6-F ₃	C ₂ F ₅	CF ₃ CH ₂ NH	2,4,6-F ₃
CH ₂ F	CF ₃ CH ₂ NH	3-F	C ₂ F ₅	CF ₃ CH ₂ NH	3-F
CH ₂ F	CF ₃ CH ₂ NH	2-Me	C ₂ F ₅	CF ₃ CH ₂ NH	2-Me
CH ₂ F	CF ₃ CH ₂ NH	2,4-Me ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,4-Me ₂
CH ₂ F	CF ₃ CH ₂ NH	2,6-Me ₂	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-Me ₂
CH ₂ F	CF ₃ CH ₂ NH	2-Cl-6-F	C ₂ F ₆	CF ₃ CH ₂ NH	2-Cl-6-F
CHF ₂	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe
CHF ₂	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃
CHF ₂	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe	C ₂ F ₆	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe
CF ₃	CF ₃ CH ₂ NH	2-Cl	CF ₂ Cl	CF ₃ CH ₂ NH	2-Cl
CF ₃	CF ₃ CH ₂ NH	2,4-Cl ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,4-Cl ₂
CF ₃	CF ₃ CH ₂ NH	2,6-Cl ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-Cl ₂
CF ₃	CF ₃ CH ₂ NH	2,4,6-Cl ₃	CF ₂ Cl	CF ₃ CH ₂ NH	2,4,6-Cl ₃
CF ₃	CF ₃ CH ₂ NH	3-Cl	CF ₂ Cl	CF ₃ CH ₂ NH	3-Cl
CF ₃	CF ₃ CH ₂ NH	2-F	CF ₂ Cl	CF ₃ CH ₂ NH	2-F
CF ₃	CF ₃ CH ₂ NH	2,4-F ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,4-F ₂
CF ₃	CF ₃ CH ₂ NH	2,6-F ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂
CF ₃	CF ₃ CH ₂ NH	2,4,6-F ₃	CF ₂ Cl	CF ₃ CH ₂ NH	2,4,6-F ₃
CF ₃	CF ₃ CH ₂ NH	3-F	CF ₂ Cl	CF ₃ CH ₂ NH	3-F
CF ₃	CF ₃ CH ₂ NH	2-Me	CF ₂ Cl	CF ₃ CH ₂ NH	2-Me
CF ₃	CF ₃ CH ₂ NH	2,4-Me ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,4-Me ₂
CF ₃	CF ₃ CH ₂ NH	2,6-Me ₂	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-Me ₂
CF ₃	CF ₃ CH ₂ NH	2-Cl-6-F	CF ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F
CF ₃	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe
CF ₃	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃

【 0050 】

【 表 10 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CF ₃	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe	CF ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe
CH ₂ Cl	CF ₃ CH ₂ NH	2-Cl	CH ₂ F	CF ₃ CH ₂ NH	2-Cl
CH ₂ Cl	CF ₃ CH ₂ NH	2,4-Cl ₂	CH ₂ F	CF ₃ CH ₂ NH	2,4-Cl ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-Cl ₂	CH ₂ F	CF ₃ CH ₂ NH	2,6-Cl ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,4,6-Cl ₃	CH ₂ F	CF ₃ CH ₂ NH	2,4,6-Cl ₃
CH ₂ Cl	CF ₃ CH ₂ NH	3-Cl	CH ₂ F	CF ₃ CH ₂ NH	3-Cl
CH ₂ Cl	CF ₃ CH ₂ NH	2-F	CH ₂ F	CF ₃ CH ₂ NH	2-F
CH ₂ Cl	CF ₃ CH ₂ NH	2,4-F ₂	CH ₂ F	CF ₃ CH ₂ NH	2,4-F ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂	CH ₂ F	CF ₃ CH ₂ NH	2,6-F ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,4,6-F ₃	CH ₂ F	CF ₃ CH ₂ NH	2,4,6-F ₃
CH ₂ Cl	CF ₃ CH ₂ NH	3-F	CH ₂ F	CF ₃ CH ₂ NH	3-F
CH ₂ Cl	CF ₃ CH ₂ NH	2-Me	CH ₂ F	CF ₃ CH ₂ NH	2-Me
CH ₂ Cl	CF ₃ CH ₂ NH	2,4-Me ₂	CH ₂ F	CF ₃ CH ₂ NH	2,4-Me ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-Me ₂	CH ₂ F	CF ₃ CH ₂ NH	2,6-Me ₂
CH ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F	CH ₂ F	CF ₃ CH ₂ NH	2-Cl-6-F
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe	CH ₂ F	CF ₃ CH ₂ NH	2,6-F ₂ -4-OMe
CH ₂ Cl	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃	CH ₂ F	CF ₃ CH ₂ NH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe	CH ₂ F	CF ₃ CH ₂ NH	2-Cl-6-F-4-OMe
CHF ₂	CF ₃ (Me)CHNH	2-Cl	C ₂ F ₅	CF ₃ (Me)CHNH	2-Cl
CHF ₂	CF ₃ (Me)CHNH	2,4-Cl ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,4-Cl ₂
CHF ₂	CF ₃ (Me)CHNH	2,6-Cl ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-Cl ₂
CHF ₂	CF ₃ (Me)CHNH	2,4,6-Cl ₃	C ₂ F ₅	CF ₃ (Me)CHNH	2,4,6-Cl ₃
CHF ₂	CF ₃ (Me)CHNH	3-Cl	C ₂ F ₅	CF ₃ (Me)CHNH	3-Cl
CHF ₂	CF ₃ (Me)CHNH	2-F	C ₂ F ₅	CF ₃ (Me)CHNH	2-F
CHF ₂	CF ₃ (Me)CHNH	2,4-F ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,4-F ₂
CHF ₂	CF ₃ (Me)CHNH	2,6-F ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-F ₂
CHF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃	C ₂ F ₅	CF ₃ (Me)CHNH	2,4,6-F ₃
CHF ₂	CF ₃ (Me)CHNH	3-F	C ₂ F ₅	CF ₃ (Me)CHNH	3-F
CHF ₂	CF ₃ (Me)CHNH	2-Me	C ₂ F ₅	CF ₃ (Me)CHNH	2-Me
CHF ₂	CF ₃ (Me)CHNH	2,4-Me ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,4-Me ₂
CHF ₂	CF ₃ (Me)CHNH	2,6-Me ₂	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-Me ₂
CHF ₂	CF ₃ (Me)CHNH	2-Cl-6-F	C ₂ F ₅	CF ₃ (Me)CHNH	2-Cl-6-F
CHF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CHF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃
CHF ₂	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe	C ₂ F ₅	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe
CF ₃	CF ₃ (Me)CHNH	2-Cl	CF ₂ Cl	CF ₃ (Me)CHNH	2-Cl

【 0051 】

【 表 1 1 】

第 1 表(つづき)

R ₂	R ₁	L _n	R ₂	R ₁	L _n
CF ₃	CF ₃ (Me)CHNH	2,4-Cl ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,4-Cl ₂
CF ₃	CF ₃ (Me)CHNH	2,6-Cl ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-Cl ₂
CF ₃	CF ₃ (Me)CHNH	2,4,6-Cl ₃	CF ₂ Cl	CF ₃ (Me)CHNH	2,4,6-Cl ₃
CF ₃	CF ₃ (Me)CHNH	3-Cl	CF ₂ Cl	CF ₃ (Me)CHNH	3-Cl
CF ₃	CF ₃ (Me)CHNH	2-F	CF ₂ Cl	CF ₃ (Me)CHNH	2-F
CF ₃	CF ₃ (Me)CHNH	2,4-F ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,4-F ₂
CF ₃	CF ₃ (Me)CHNH	2,6-F ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂
CF ₃	CF ₃ (Me)CHNH	2,4,6-F ₃	CF ₂ Cl	CF ₃ (Me)CHNH	2,4,6-F ₃
CF ₃	CF ₃ (Me)CHNH	3-F	CF ₂ Cl	CF ₃ (Me)CHNH	3-F
CF ₃	CF ₃ (Me)CHNH	2-Me	CF ₂ Cl	CF ₃ (Me)CHNH	2-Me
CF ₃	CF ₃ (Me)CHNH	2,4-Me ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,4-Me ₂
CF ₃	CF ₃ (Me)CHNH	2,6-Me ₂	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-Me ₂
CF ₃	CF ₃ (Me)CHNH	2-Cl-6-F	CF ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F
CF ₃	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CF ₃	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃
CF ₃	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe	CF ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe
CH ₂ Cl	CF ₃ (Me)CHNH	2-Cl	CH ₂ F	CF ₃ (Me)CHNH	2-Cl
CH ₂ Cl	CF ₃ (Me)CHNH	2,4-Cl ₂	CH ₂ F	CF ₃ (Me)CHNH	2,4-Cl ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-Cl ₂	CH ₂ F	CF ₃ (Me)CHNH	2,6-Cl ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,4,6-Cl ₃	CH ₂ F	CF ₃ (Me)CHNH	2,4,6-Cl ₃
CH ₂ Cl	CF ₃ (Me)CHNH	3-Cl	CH ₂ F	CF ₃ (Me)CHNH	3-Cl
CH ₂ Cl	CF ₃ (Me)CHNH	2-F	CH ₂ F	CF ₃ (Me)CHNH	2-F
CH ₂ Cl	CF ₃ (Me)CHNH	2,4-F ₂	CH ₂ F	CF ₃ (Me)CHNH	2,4-F ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂	CH ₂ F	CF ₃ (Me)CHNH	2,6-F ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,4,6-F ₃	CH ₂ F	CF ₃ (Me)CHNH	2,4,6-F ₃
CH ₂ Cl	CF ₃ (Me)CHNH	3-F	CH ₂ F	CF ₃ (Me)CHNH	3-F
CH ₂ Cl	CF ₃ (Me)CHNH	2-Me	CH ₂ F	CF ₃ (Me)CHNH	2-Me
CH ₂ Cl	CF ₃ (Me)CHNH	2,4-Me ₂	CH ₂ F	CF ₃ (Me)CHNH	2,4-Me ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-Me ₂	CH ₂ F	CF ₃ (Me)CHNH	2,6-Me ₂
CH ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F	CH ₂ F	CF ₃ (Me)CHNH	2-Cl-6-F
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	CH ₂ F	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CH ₂ Cl	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	CF ₃ (Me)CHNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe	CH ₂ F	CF ₃ (Me)CHNH	2-Cl-6-F-4-OMe
CHF ₂	c-PenNH	2-Cl	C ₂ F ₅	c-PenNH	2-Cl
CHF ₂	c-PenNH	2,4-Cl ₂	C ₂ F ₅	c-PenNH	2,4-Cl ₂
CHF ₂	c-PenNH	2,6-Cl ₂	C ₂ F ₅	c-PenNH	2,6-Cl ₂

【 0052 】

【 表 1 2 】

第 1 表(つづき)

R_2	R_1	L_n	R_2	R_1	L_n
CHF_2	c-PenNH	2,4,6- Cl_3	C_2F_6	c-PenNH	2,4,6- Cl_3
CHF_2	c-PenNH	3-Cl	C_2F_5	c-PenNH	3-Cl
CHF_2	c-PenNH	2-F	C_2F_5	c-PenNH	2-F
CHF_2	c-PenNH	2,4- F_2	C_2F_5	c-PenNH	2,4- F_2
CHF_2	c-PenNH	2,6- F_2	C_2F_5	c-PenNH	2,6- F_2
CHF_2	c-PenNH	2,4,6- F_3	C_2F_5	c-PenNH	2,4,6- F_3
CHF_2	c-PenNH	3-F	C_2F_5	c-PenNH	3-F
CHF_2	c-PenNH	2-Me	C_2F_5	c-PenNH	2-Me
CHF_2	c-PenNH	2,4- Me_2	C_2F_5	c-PenNH	2,4- Me_2
CHF_2	c-PenNH	2,6- Me_2	C_2F_5	c-PenNH	2,6- Me_2
CHF_2	c-PenNH	2-Cl-6-F	C_2F_5	c-PenNH	2-Cl-6-F
CHF_2	c-PenNH	2,6- F_2 -4-OMe	C_2F_5	c-PenNH	2,6- F_2 -4-OMe
CHF_2	c-PenNH	2,6- F_2 -4-OCF ₃	C_2F_5	c-PenNH	2,6- F_2 -4-OCF ₃
CHF_2	c-PenNH	2-Cl-6-F-4-OMe	C_2F_5	c-PenNH	2-Cl-6-F-4-OMe
CF_3	c-PenNH	2-Cl	CF_2Cl	c-PenNH	2-Cl
CF_3	c-PenNH	2,4- Cl_2	CF_2Cl	c-PenNH	2,4- Cl_2
CF_3	c-PenNH	2,6- Cl_2	CF_2Cl	c-PenNH	2,6- Cl_2
CF_3	c-PenNH	2,4,6- Cl_3	CF_2Cl	c-PenNH	2,4,6- Cl_3
CF_3	c-PenNH	3-Cl	CF_2Cl	c-PenNH	3-Cl
CF_3	c-PenNH	2-F	CF_2Cl	c-PenNH	2-F
CF_3	c-PenNH	2,4- F_2	CF_2Cl	c-PenNH	2,4- F_2
CF_3	c-PenNH	2,6- F_2	CF_2Cl	c-PenNH	2,6- F_2
CF_3	c-PenNH	2,4,6- F_3	CF_2Cl	c-PenNH	2,4,6- F_3
CF_3	c-PenNH	3-F	CF_2Cl	c-PenNH	3-F
CF_3	c-PenNH	2-Me	CF_2Cl	c-PenNH	2-Me
CF_3	c-PenNH	2,4- Me_2	CF_2Cl	c-PenNH	2,4- Me_2
CF_3	c-PenNH	2,6- Me_2	CF_2Cl	c-PenNH	2,6- Me_2
CF_3	c-PenNH	2-Cl-6-F	CF_2Cl	c-PenNH	2-Cl-6-F
CF_3	c-PenNH	2,6- F_2 -4-OMe	CF_2Cl	c-PenNH	2,6- F_2 -4-OMe
CF_3	c-PenNH	2,6- F_2 -4-OCF ₃	CF_2Cl	c-PenNH	2,6- F_2 -4-OCF ₃
CF_3	c-PenNH	2-Cl-6-F-4-OMe	CF_2Cl	c-PenNH	2-Cl-6-F-4-OMe
CH_2Cl	c-PenNH	2-Cl	CH_2F	c-PenNH	2-Cl
CH_2Cl	c-PenNH	2,4- Cl_2	CH_2F	c-PenNH	2,4- Cl_2
CH_2Cl	c-PenNH	2,6- Cl_2	CH_2F	c-PenNH	2,6- Cl_2
CH_2Cl	c-PenNH	2,4,6- Cl_3	CH_2F	c-PenNH	2,4,6- Cl_3
CH_2Cl	c-PenNH	3-Cl	CH_2F	c-PenNH	3-Cl

【 0053 】

【 表 13 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	c-PenNH	2-F	CH ₂ F	c-PenNH	2-F
CH ₂ Cl	c-PenNH	2,4-F ₂	CH ₂ F	c-PenNH	2,4-F ₂
CH ₂ Cl	c-PenNH	2,6-F ₂	CH ₂ F	c-PenNH	2,6-F ₂
CH ₂ Cl	c-PenNH	2,4,6-F ₃	CH ₂ F	c-PenNH	2,4,6-F ₃
CH ₂ Cl	c-PenNH	3-F	CH ₂ F	c-PenNH	3-F
CH ₂ Cl	c-PenNH	2-Me	CH ₂ F	c-PenNH	2-Me
CH ₂ Cl	c-PenNH	2,4-Me ₂	CH ₂ F	c-PenNH	2,4-Me ₂
CH ₂ Cl	c-PenNH	2,6-Me ₂	CH ₂ F	c-PenNH	2,6-Me ₂
CH ₂ Cl	c-PenNH	2-Cl-6-F	CH ₂ F	c-PenNH	2-Cl-6-F
CH ₂ Cl	c-PenNH	2,6-F ₂ -4-OMe	CH ₂ F	c-PenNH	2,6-F ₂ -4-OMe
CH ₂ Cl	c-PenNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	c-PenNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	c-PenNH	2-Cl-6-F-4-OMe	CH ₂ F	c-PenNH	2-Cl-6-F-4-OMe
CHF ₂	iso-PrNH	2-Cl	C ₂ F ₅	iso-PrNH	2-Cl
CHF ₂	iso-PrNH	2,4-Cl ₂	C ₂ F ₅	iso-PrNH	2,4-Cl ₂
CHF ₂	iso-PrNH	2,6-Cl ₂	C ₂ F ₅	iso-PrNH	2,6-Cl ₂
CHF ₂	iso-PrNH	2,4,6-Cl ₃	C ₂ F ₅	iso-PrNH	2,4,6-Cl ₃
CHF ₂	iso-PrNH	3-Cl	C ₂ F ₅	iso-PrNH	3-Cl
CHF ₂	iso-PrNH	2-F	C ₂ F ₅	iso-PrNH	2-F
CHF ₂	iso-PrNH	2,4-F ₂	C ₂ F ₅	iso-PrNH	2,4-F ₂
CHF ₂	iso-PrNH	2,6-F ₂	C ₂ F ₅	iso-PrNH	2,6-F ₂
CHF ₂	iso-PrNH	2,4,6-F ₃	C ₂ F ₅	iso-PrNH	2,4,6-F ₃
CHF ₂	iso-PrNH	3-F	C ₂ F ₅	iso-PrNH	3-F
CHF ₂	iso-PrNH	2-Me	C ₂ F ₅	iso-PrNH	2-Me
CHF ₂	iso-PrNH	2,4-Me ₂	C ₂ F ₅	iso-PrNH	2,4-Me ₂
CHF ₂	iso-PrNH	2,6-Me ₂	C ₂ F ₅	iso-PrNH	2,6-Me ₂
CHF ₂	iso-PrNH	2-Cl-6-F	C ₂ F ₅	iso-PrNH	2-Cl-6-F
CHF ₂	iso-PrNH	2,6-F ₂ -4-OMe	C ₂ F ₅	iso-PrNH	2,6-F ₂ -4-OMe
CHF ₂	iso-PrNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	iso-PrNH	2,6-F ₂ -4-OCF ₃
CHF ₂	iso-PrNH	2-Cl-6-F-4-OMe	C ₂ F ₅	iso-PrNH	2-Cl-6-F-4-OMe
CF ₃	iso-PrNH	2-Cl	CF ₂ Cl	iso-PrNH	2-Cl
CF ₃	iso-PrNH	2,4-Cl ₂	CF ₂ Cl	iso-PrNH	2,4-Cl ₂
CF ₃	iso-PrNH	2,6-Cl ₂	CF ₂ Cl	iso-PrNH	2,6-Cl ₂
CF ₃	iso-PrNH	2,4,6-Cl ₃	CF ₂ Cl	iso-PrNH	2,4,6-Cl ₃
CF ₃	iso-PrNH	3-Cl	CF ₂ Cl	iso-PrNH	3-Cl
CF ₃	iso-PrNH	2-F	CF ₂ Cl	iso-PrNH	2-F
CF ₃	iso-PrNH	2,4-F ₂	CF ₂ Cl	iso-PrNH	2,4-F ₂

【 0054 】

【 表 14 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
Cl ₃	iso-PrNH	2,6-F ₂	CF ₂ Cl	iso-PrNH	2,6-F ₂
Cl ₃	iso-PrNH	2,4,6-F ₃	CF ₂ Cl	iso-PrNH	2,4,6-F ₃
Cl ₃	iso-PrNH	3-F	CF ₂ Cl	iso-PrNH	3-F
Cl ₃	iso-PrNH	2-Me	CF ₂ Cl	iso-PrNH	2-Me
Cl ₃	iso-PrNH	2,4-Me ₂	CF ₂ Cl	iso-PrNH	2,4-Me ₂
Cl ₃	iso-PrNH	2,6-Me ₂	CF ₂ Cl	iso-PrNH	2,6-Me ₂
Cl ₃	iso-PrNH	2-Cl-6-F	CF ₂ Cl	iso-PrNH	2-Cl-6-F
Cl ₃	iso-PrNH	2,6-F ₂ -4-OMe	CF ₂ Cl	iso-PrNH	2,6-F ₂ -4-OMe
Cl ₃	iso-PrNH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	iso-PrNH	2,6-F ₂ -4-OCF ₃
Cl ₃	iso-PrNH	2-Cl-6-F-4-OMe	CF ₂ Cl	iso-PrNH	2-Cl-6-F-4-OMe
CH ₂ Cl	iso-PrNH	2-Cl	CH ₂ F	iso-PrNH	2-Cl
CH ₂ Cl	iso-PrNH	2,4-Cl ₂	CH ₂ F	iso-PrNH	2,4-Cl ₂
CH ₂ Cl	iso-PrNH	2,6-Cl ₂	CH ₂ F	iso-PrNH	2,6-Cl ₂
CH ₂ Cl	iso-PrNH	2,4,6-Cl ₃	CH ₂ F	iso-PrNH	2,4,6-Cl ₃
CH ₂ Cl	iso-PrNH	3-Cl	CH ₂ F	iso-PrNH	3-Cl
CH ₂ Cl	iso-PrNH	2-F	CH ₂ F	iso-PrNH	2-F
CH ₂ Cl	iso-PrNH	2,4-F ₂	CH ₂ F	iso-PrNH	2,4-F ₂
CH ₂ Cl	iso-PrNH	2,6-F ₂	CH ₂ F	iso-PrNH	2,6-F ₂
CH ₂ Cl	iso-PrNH	2,4,6-F ₃	CH ₂ F	iso-PrNH	2,4,6-F ₃
CH ₂ Cl	iso-PrNH	3-F	CH ₂ F	iso-PrNH	3-F
CH ₂ Cl	iso-PrNH	2-Me	CH ₂ F	iso-PrNH	2-Me
CH ₂ Cl	iso-PrNH	2,4-Me ₂	CH ₂ F	iso-PrNH	2,4-Me ₂
CH ₂ Cl	iso-PrNH	2,6-Me ₂	CH ₂ F	iso-PrNH	2,6-Me ₂
CH ₂ Cl	iso-PrNH	2-Cl-6-F	CH ₂ F	iso-PrNH	2-Cl-6-F
CH ₂ Cl	iso-PrNH	2,6-F ₂ -4-OMe	CH ₂ F	iso-PrNH	2,6-F ₂ -4-OMe
CH ₂ Cl	iso-PrNH	2,6-F ₂ -4-OCF ₃	CH ₂ F	iso-PrNH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	iso-PrNH	2-Cl-6-F-4-OMe	CH ₂ F	iso-PrNH	2-Cl-6-F-4-OMe
CHF ₂	sec-BuNH	2-Cl	C ₂ F ₅	sec-BuNH	2-Cl
CHF ₂	sec-BuNH	2,4-Cl ₂	C ₂ F ₅	sec-BuNH	2,4-Cl ₂
CHF ₂	sec-BuNH	2,6-Cl ₂	C ₂ F ₅	sec-BuNH	2,6-Cl ₂
CHF ₂	sec-BuNH	2,4,6-Cl ₃	C ₂ F ₅	sec-BuNH	2,4,6-Cl ₃
CHF ₂	sec-BuNH	3-Cl	C ₂ F ₅	sec-BuNH	3-Cl
CHF ₂	sec-BuNH	2-F	C ₂ F ₅	sec-BuNH	2-F
CHF ₂	sec-BuNH	2,4-F ₂	C ₂ F ₅	sec-BuNH	2,4-F ₂
CHF ₂	sec-BuNH	2,6-F ₂	C ₂ F ₅	sec-BuNH	2,6-F ₂
CHF ₂	sec-BuNH	2,4,6-F ₃	C ₂ F ₅	sec-BuNH	2,4,6-F ₃

【 0055 】

【 表 15 】

第 1 表(つづき)

R_2	R_1	L_n	R_2	R_1	L_n
CHF_2	sec-BuNH	3-F	C_2F_5	sec-BuNH	3-F
CHF_2	sec-BuNH	2-Me	C_2F_5	sec-BuNH	2-Me
CHF_2	sec-BuNH	2,4-Me ₂	C_2F_5	sec-BuNH	2,4-Me ₂
CHF_2	sec-BuNH	2,6-Me ₂	C_2F_5	sec-BuNH	2,6-Me ₂
CHF_2	sec-BuNH	2-Cl-6-F	C_2F_5	sec-BuNH	2-Cl-6-F
CHF_2	sec-BuNH	2,6-F ₂ -4-OMe	C_2F_5	sec-BuNH	2,6-F ₂ -4-OMe
CHF_2	sec-BuNH	2,6-F ₂ -4-OCF ₃	C_2F_5	sec-BuNH	2,6-F ₂ -4-OCF ₃
CHF_2	sec-BuNH	2-Cl-6-F-4-OMe	C_2F_5	sec-BuNH	2-Cl-6-F-4-OMe
CF_3	sec-BuNH	2-Cl	CF_2Cl	sec-BuNH	2-Cl
CF_3	sec-BuNH	2,4-Cl ₂	CF_2Cl	sec-BuNH	2,4-Cl ₂
CF_3	sec-BuNH	2,6-Cl ₂	CF_2Cl	sec-BuNH	2,6-Cl ₂
CF_3	sec-BuNH	2,4,6-Cl ₃	CF_2Cl	sec-BuNH	2,4,6-Cl ₃
CF_3	sec-BuNH	3-Cl	CF_2Cl	sec-BuNH	3-Cl
CF_3	sec-BuNH	2-F	CF_2Cl	sec-BuNH	2-F
CF_3	sec-BuNH	2,4-F ₂	CF_2Cl	sec-BuNH	2,4-F ₂
CF_3	sec-BuNH	2,6-F ₂	CF_2Cl	sec-BuNH	2,6-F ₂
CF_3	sec-BuNH	2,4,6-F ₃	CF_2Cl	sec-BuNH	2,4,6-F ₃
CF_3	sec-BuNH	3-F	CF_2Cl	sec-BuNH	3-F
CF_3	sec-BuNH	2-Me	CF_2Cl	sec-BuNH	2-Me
CF_3	sec-BuNH	2,4-Me ₂	CF_2Cl	sec-BuNH	2,4-Me ₂
CF_3	sec-BuNH	2,6-Me ₂	CF_2Cl	sec-BuNH	2,6-Me ₂
CF_3	sec-BuNH	2-Cl-6-F	CF_2Cl	sec-BuNH	2-Cl-6-F
CF_3	sec-BuNH	2,6-F ₂ -4-OMe	CF_2Cl	sec-BuNH	2,6-F ₂ -4-OMe
CF_3	sec-BuNH	2,6-F ₂ -4-OCF ₃	CF_2Cl	sec-BuNH	2,6-F ₂ -4-OCF ₃
CF_3	sec-BuNH	2-Cl-6-F-4-OMe	CF_2Cl	sec-BuNH	2-Cl-6-F-4-OMe
CH_2Cl	sec-BuNH	2-Cl	CH_2F	sec-BuNH	2-Cl
CH_2Cl	sec-BuNH	2,4-Cl ₂	CH_2F	sec-BuNH	2,4-Cl ₂
CH_2Cl	sec-BuNH	2,6-Cl ₂	CH_2F	sec-BuNH	2,6-Cl ₂
CH_2Cl	sec-BuNH	2,4,6-Cl ₃	CH_2F	sec-BuNH	2,4,6-Cl ₃
CH_2Cl	sec-BuNH	3-Cl	CH_2F	sec-BuNH	3-Cl
CH_2Cl	sec-BuNH	2-F	CH_2F	sec-BuNH	2-F
CH_2Cl	sec-BuNH	2,4-F ₂	CH_2F	sec-BuNH	2,4-F ₂
CH_2Cl	sec-BuNH	2,6-F ₂	CH_2F	sec-BuNH	2,6-F ₂
CH_2Cl	sec-BuNH	2,4,6-F ₃	CH_2F	sec-BuNH	2,4,6-F ₃
CH_2Cl	sec-BuNH	3-F	CH_2F	sec-BuNH	3-F
CH_2Cl	sec-BuNH	2-Me	CH_2F	sec-BuNH	2-Me

【0056】

【表16】

第 1 表(つづき)

R_2	R_1	L_n	R_2	R_1	L_n
CH_2Cl	sec-BuNH	2,4-Me ₂	CH_2F	sec-BuNH	2,4-Me ₂
CH_2Cl	sec-BuNH	2,6-Me ₂	CH_2F	sec-BuNH	2,6-Me ₂
CH_2Cl	sec-BuNH	2-Cl-6-F	CH_2F	sec-BuNH	2-Cl-6-F
CH_2Cl	sec-BuNH	2,6-F ₂ -4-OMe	CH_2F	sec-BuNH	2,6-F ₂ -4-OMe
CH_2Cl	sec-BuNH	2,6-F ₂ -4-OCF ₃	CH_2F	sec-BuNH	2,6-F ₂ -4-OCF ₃
CH_2Cl	sec-BuNH	2-Cl-6-F-4-OMe	CH_2F	sec-BuNH	2-Cl-6-F-4-OMe
CH_2F	4-F-c-Hex	2-Cl	C_2F_5	4-F-c-Hex	2-Cl
CH_2F	4-F-c-Hex	2,4-Cl ₂	C_2F_5	4-F-c-Hex	2,4-Cl ₂
CH_2F	4-F-c-Hex	2,6-Cl ₂	C_2F_5	4-F-c-Hex	2,6-Cl ₂
CH_2F	4-F-c-Hex	2,4,6-Cl ₃	C_2F_5	4-F-c-Hex	2,4,6-Cl ₃
CH_2F	4-F-c-Hex	3-Cl	C_2F_5	4-F-c-Hex	3-Cl
CH_2F	4-F-c-Hex	2-F	C_2F_5	4-F-c-Hex	2-F
CHF_2	4-F-c-Hex	2,4-F ₂	C_2F_5	4-F-c-Hex	2,4-F ₂
CHF_2	4-F-c-Hex	2,6-F ₂	C_2F_5	4-F-c-Hex	2,6-F ₂
CHF_2	4-F-c-Hex	2,4,6-F ₃	C_2F_5	4-F-c-Hex	2,4,6-F ₃
CHF_2	4-F-c-Hex	3-F	C_2F_5	4-F-c-Hex	3-F
CHF_2	4-F-c-Hex	2-Me	C_2F_5	4-F-c-Hex	2-Me
CHF_2	4-F-c-Hex	2,4-Me ₂	C_2F_5	4-F-c-Hex	2,4-Me ₂
CHF_2	4-F-c-Hex	2,6-Me ₂	C_2F_5	4-F-c-Hex	2,6-Me ₂
CHF_2	4-F-c-Hex	2-Cl-6-F	C_2F_5	4-F-c-Hex	2-Cl-6-F
CHF_2	4-F-c-Hex	2,6-F ₂ -4-OMe	C_2F_5	4-F-c-Hex	2,6-F ₂ -4-OMe
CHF_2	4-F-c-Hex	2,6-F ₂ -4-OCF ₃	C_2F_5	4-F-c-Hex	2,6-F ₂ -4-OCF ₃
CHF_2	4-F-c-Hex	2-Cl-6-F-4-OMe	C_2F_5	4-F-c-Hex	2-Cl-6-F-4-OMe
CF_3	4-F-c-Hex	2-Cl	CF_2Cl	4-F-c-Hex	2-Cl
CF_3	4-F-c-Hex	2,4-Cl ₂	CF_2Cl	4-F-c-Hex	2,4-Cl ₂
CF_3	4-F-c-Hex	2,6-Cl ₂	CF_2Cl	4-F-c-Hex	2,6-Cl ₂
CF_3	4-F-c-Hex	2,4,6-Cl ₃	CF_2Cl	4-F-c-Hex	2,4,6-Cl ₃
CF_3	4-F-c-Hex	3-Cl	CF_2Cl	4-F-c-Hex	3-Cl
CF_3	4-F-c-Hex	2-F	CF_2Cl	4-F-c-Hex	2-F
CF_3	4-F-c-Hex	2,4-F ₂	CF_2Cl	4-F-c-Hex	2,4-F ₂
CF_3	4-F-c-Hex	2,6-F ₂	CF_2Cl	4-F-c-Hex	2,6-F ₂
CF_3	4-F-c-Hex	2,4,6-F ₃	CF_2Cl	4-F-c-Hex	2,4,6-F ₃
CF_3	4-F-c-Hex	3-F	CF_2Cl	4-F-c-Hex	3-F
CF_3	4-F-c-Hex	2-Me	CF_2Cl	4-F-c-Hex	2-Me
CF_3	4-F-c-Hex	2,4-Me ₂	CF_2Cl	4-F-c-Hex	2,4-Me ₂
CF_3	4-F-c-Hex	2,6-Me ₂	CF_2Cl	4-F-c-Hex	2,6-Me ₂

【 0057 】

【 表 17 】

第 1 表(つづき)

R ₂	R ₁	Ln	i ₂	R ₁	Ln
Cl ₃	4-F-c-Hex	2-Cl-6-F	CF ₂ Cl	4-F-c-Hex	2-Cl-6-F
Cl ₃	4-F-c-Hex	2,6-F ₂ -4-OMe	CF ₂ Cl	4-F-c-Hex	2,6-F ₂ -4-OMe
Cl ₃	4-F-o-Hex	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	4-F-o-Hex	2,6-F ₂ -4-OCF ₃
Cl ₃	4-F-c-Hex	2-Cl-6-F-4-OMe	CF ₂ Cl	4-F-c-Hex	2-Cl-6-F-4-OMe
CH ₂ Cl	4-F-c-Hex	2-Cl	CH ₂ F	4-F-c-Hex	2-Cl
CH ₂ Cl	4-F-c-Hex	2,4-Cl ₂	CH ₂ F	4-F-c-Hex	2,4-Cl ₂
CH ₂ Cl	4-F-c-Hex	2,6-Cl ₂	CH ₂ F	4-F-c-Hex	2,6-Cl ₂
CH ₂ Cl	4-F-c-Hex	2,4,6-Cl ₃	CH ₂ F	4-F-c-Hex	2,4,6-Cl ₃
CH ₂ Cl	4-F-o-Hex	3-Cl	CH ₂ F	4-F-o-Hex	3-Cl
CH ₂ Cl	4-F-c-Hex	2-F	CH ₂ F	4-F-c-Hex	2-F
CH ₂ Cl	4-F-c-Hex	2,4-F ₂	CH ₂ F	4-F-c-Hex	2,4-F ₂
CH ₂ Cl	4-F-c-Hex	2,6-F ₂	CH ₂ F	4-F-c-Hex	2,6-F ₂
CH ₂ Cl	4-F-c-Hex	2,4,6-F ₃	CH ₂ F	4-F-c-Hex	2,4,6-F ₃
CH ₂ Cl	4-F-c-Hex	3-F	CH ₂ F	4-F-c-Hex	3-F
CH ₂ Cl	4-F-c-Hex	2-Me	CH ₂ F	4-F-c-Hex	2-Me
CH ₂ Cl	4-F-o-Hex	2,4-Me ₂	CH ₂ F	4-F-o-Hex	2,4-Me ₂
CH ₂ Cl	4-F-c-Hex	2,6-Me ₂	CH ₂ F	4-F-c-Hex	2,6-Me ₂
CH ₂ Cl	4-F-c-Hex	2-Cl-6-F	CH ₂ F	4-F-c-Hex	2-Cl-6-F
CH ₂ Cl	4-F-c-Hex	2,6-F ₂ -4-OMe	CH ₂ F	4-F-c-Hex	2,6-F ₂ -4-OMe
CH ₂ Cl	4-F-c-Hex	2,6-F ₂ -4-OCF ₃	CH ₂ F	4-F-c-Hex	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	4-F-c-Hex	2-Cl-6-F-4-OMe	CH ₂ F	4-F-c-Hex	2-Cl-6-F-4-OMe
CHF ₂	Et ₂ N	2-Cl	C ₂ F ₅	Et ₂ N	2-Cl
CHF ₂	Et ₂ N	2,4-Cl ₂	C ₂ F ₅	Et ₂ N	2,4-Cl ₂
CHF ₂	Et ₂ N	2,6-Cl ₂	C ₂ F ₅	Et ₂ N	2,6-Cl ₂
CHF ₂	Et ₂ N	2,4,6-Cl ₃	C ₂ F ₅	Et ₂ N	2,4,6-Cl ₃
CHF ₂	Et ₂ N	3-Cl	C ₂ F ₅	Et ₂ N	3-Cl
CHF ₂	Et ₂ N	2-F	C ₂ F ₅	Et ₂ N	2-F
CHF ₂	Et ₂ N	2,4-F ₂	C ₂ F ₅	Et ₂ N	2,4-F ₂
CHF ₂	Et ₂ N	2,6-F ₂	C ₂ F ₅	Et ₂ N	2,6-F ₂
CHF ₂	Et ₂ N	2,4,6-F ₃	C ₂ F ₅	Et ₂ N	2,4,6-F ₃
CHF ₂	Et ₂ N	3-F	C ₂ F ₅	Et ₂ N	3-F
CHF ₂	Et ₂ N	2-Me	C ₂ F ₅	Et ₂ N	2-Me
CHF ₂	Et ₂ N	2,4-Me ₂	C ₂ F ₅	Et ₂ N	2,4-Me ₂
CHF ₂	Et ₂ N	2,6-Me ₂	C ₂ F ₅	Et ₂ N	2,6-Me ₂
CHF ₂	Et ₂ N	2-Cl-6-F	C ₂ F ₅	Et ₂ N	2-Cl-6-F
CHF ₂	Et ₂ N	2,6-F ₂ -4-OMe	C ₂ F ₅	Et ₂ N	2,6-F ₂ -4-OMe

【 0058 】

【 表 18 】

第 1 表(つづき)

R ₂	R ₁	Ln	i ₂	R ₁	Ln
CHF ₂	Et ₂ N	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	Et ₂ N	2,6-F ₂ -4-OCF ₃
CHF ₂	Et ₂ N	2-Cl-6-F-4-OMe	C ₂ F ₅	Et ₂ N	2-Cl-6-F-4-OMe
CF ₃	Et ₂ N	2-Cl	CF ₂ Cl	Et ₂ N	2-Cl
CF ₃	Et ₂ N	2,4-Cl ₂	CF ₂ Cl	Et ₂ N	2,4-Cl ₂
CF ₃	Et ₂ N	2,6-Cl ₂	CF ₂ Cl	Et ₂ N	2,6-Cl ₂
CF ₃	Et ₂ N	2,4,6-Cl ₃	CF ₂ Cl	Et ₂ N	2,4,6-Cl ₃
CF ₃	Et ₂ N	3-Cl	CF ₂ Cl	Et ₂ N	3-Cl
CF ₃	Et ₂ N	2-F	CF ₂ Cl	Et ₂ N	2-F
CF ₃	Et ₂ N	2,4-F ₂	CF ₂ Cl	Et ₂ N	2,4-F ₂
CF ₃	Et ₂ N	2,6-F ₂	CF ₂ Cl	Et ₂ N	2,6-F ₂
CF ₃	Et ₂ N	2,4,6-F ₃	CF ₂ Cl	Et ₂ N	2,4,6-F ₃
CF ₃	Et ₂ N	3-F	CF ₂ Cl	Et ₂ N	3-F
CF ₃	Et ₂ N	2-Me	CF ₂ Cl	Et ₂ N	2-Me
CF ₃	Et ₂ N	2,4-Me ₂	CF ₂ Cl	Et ₂ N	2,4-Me ₂
CF ₃	Et ₂ N	2,6-Me ₂	CF ₂ Cl	Et ₂ N	2,6-Me ₂
CF ₃	Et ₂ N	2-Cl-6-F	CF ₂ Cl	Et ₂ N	2-Cl-6-F
CF ₃	Et ₂ N	2,6-F ₂ -4-OMe	CF ₂ Cl	Et ₂ N	2,6-F ₂ -4-OMe
CF ₃	Et ₂ N	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	Et ₂ N	2,6-F ₂ -4-OCF ₃
CF ₃	Et ₂ N	2-Cl-6-F-4-OMe	CF ₂ Cl	Et ₂ N	2-Cl-6-F-4-OMe
CH ₂ Cl	Et ₂ N	2-Cl	CH ₂ i ⁺	Et ₂ N	2-Cl
CH ₂ Cl	Et ₂ N	2,4-Cl ₂	CH ₂ i ⁺	Et ₂ N	2,4-Cl ₂
CH ₂ Cl	Et ₂ N	2,6-Cl ₂	CH ₂ i ⁺	Et ₂ N	2,6-Cl ₂
CH ₂ Cl	Et ₂ N	2,4,6-Cl ₃	CH ₂ i ⁺	Et ₂ N	2,4,6-Cl ₃
CH ₂ Cl	Et ₂ N	3-Cl	CH ₂ i ⁺	Et ₂ N	3-Cl
CH ₂ Cl	Et ₂ N	2-F	CH ₂ i ⁺	Et ₂ N	2-F
CH ₂ Cl	Et ₂ N	2,4-F ₂	CH ₂ i ⁺	Et ₂ N	2,4-F ₂
CH ₂ Cl	Et ₂ N	2,6-F ₂	CH ₂ i ⁺	Et ₂ N	2,6-F ₂
CH ₂ Cl	Et ₂ N	2,4,6-F ₃	CH ₂ i ⁺	Et ₂ N	2,4,6-F ₃
CH ₂ Cl	Et ₂ N	3-F	CH ₂ i ⁺	Et ₂ N	3-F
CH ₂ Cl	Et ₂ N	2-Me	CH ₂ i ⁺	Et ₂ N	2-Me
CH ₂ Cl	Et ₂ N	2,4-Me ₂	CH ₂ i ⁺	Et ₂ N	2,4-Me ₂
CH ₂ Cl	Et ₂ N	2,6-Me ₂	CH ₂ i ⁺	Et ₂ N	2,6-Me ₂
CH ₂ Cl	Et ₂ N	2-Cl-6-F	CH ₂ i ⁺	Et ₂ N	2-Cl-6-F
CH ₂ Cl	Et ₂ N	2,6-F ₂ -4-OMe	CH ₂ i ⁺	Et ₂ N	2,6-F ₂ -4-OMe
CH ₂ Cl	Et ₂ N	2,6-F ₂ -4-OCF ₃	CH ₂ i ⁺	Et ₂ N	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	Et ₂ N	2-Cl-6-F-4-OMe	CH ₂ i ⁺	Et ₂ N	2-Cl-6-F-4-OMe

【 0059 】

【 表 19 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CHF ₂	c-Pen	2-Cl	C ₂ F ₅	c-Pen	2-Cl
CHF ₂	c-Pen	2,4-Cl ₂	C ₂ F ₅	c-Pen	2,4-Cl ₂
CHF ₂	c-Pen	2,6-Cl ₂	C ₂ F ₅	c-Pen	2,6-Cl ₂
CHF ₂	c-Pen	2,4,6-Cl ₃	C ₂ F ₅	c-Pen	2,4,6-Cl ₃
CHF ₂	c-Pen	3-Cl	C ₂ F ₅	c-Pen	3-Cl
CHF ₂	c-Pen	2-F	C ₂ F ₅	c-Pen	2-F
CHF ₂	c-Pen	2,4-F ₂	C ₂ F ₅	c-Pen	2,4-F ₂
CHF ₂	c-Pen	2,6-F ₂	C ₂ F ₅	c-Pen	2,6-F ₂
CHF ₂	c-Pen	2,4,6-F ₃	C ₂ F ₅	c-Pen	2,4,6-F ₃
CHF ₂	c-Pen	3-F	C ₂ F ₅	c-Pen	3-F
CHF ₂	c-Pen	2-Me	C ₂ F ₅	c-Pen	2-Me
CHF ₂	c-Pen	2,4-Me ₂	C ₂ F ₅	c-Pen	2,4-Me ₂
CHF ₂	c-Pen	2,6-Me ₂	C ₂ F ₅	c-Pen	2,6-Me ₂
CHF ₂	c-Pen	2-Cl-6-F	C ₂ F ₅	c-Pen	2-Cl-6-F
CHF ₂	c-Pen	2,6-F ₂ -4-OMe	C ₂ F ₅	c-Pen	2,6-F ₂ -4-OMe
CHF ₂	c-Pen	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	c-Pen	2,6-F ₂ -4-OCF ₃
CHF ₂	c-Pen	2-Cl-6-F-4-OMe	C ₂ F ₅	c-Pen	2-Cl-6-F-4-OMe
CF ₃	c-Pen	2-Cl	CF ₂ Cl	c-Pen	2-Cl
CF ₃	c-Pen	2,4-Cl ₂	CF ₂ Cl	c-Pen	2,4-Cl ₂
CF ₃	c-Pen	2,6-Cl ₂	CF ₂ Cl	c-Pen	2,6-Cl ₂
CF ₃	c-Pen	2,4,6-Cl ₃	CF ₂ Cl	c-Pen	2,4,6-Cl ₃
CF ₃	c-Pen	3-Cl	CF ₂ Cl	c-Pen	3-Cl
CF ₃	c-Pen	2-F	CF ₂ Cl	c-Pen	2-F
CF ₃	c-Pen	2,4-F ₂	CF ₂ Cl	c-Pen	2,4-F ₂
CF ₃	c-Pen	2,6-F ₂	CF ₂ Cl	c-Pen	2,6-F ₂
CF ₃	c-Pen	2,4,6-F ₃	CF ₂ Cl	c-Pen	2,4,6-F ₃
CF ₃	c-Pen	3-F	CF ₂ Cl	c-Pen	3-F
CF ₃	c-Pen	2-Me	CF ₂ Cl	c-Pen	2-Me
CF ₃	c-Pen	2,4-Me ₂	CF ₂ Cl	c-Pen	2,4-Me ₂
CF ₃	c-Pen	2,6-Me ₂	CF ₂ Cl	c-Pen	2,6-Me ₂
CF ₃	c-Pen	2-Cl-6-F	CF ₂ Cl	c-Pen	2-Cl-6-F
CF ₃	c-Pen	2,6-F ₂ -4-OMe	CF ₂ Cl	c-Pen	2,6-F ₂ -4-OMe
CF ₃	c-Pen	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	c-Pen	2,6-F ₂ -4-OCF ₃
CF ₃	c-Pen	2-Cl-6-F-4-OMe	CF ₂ Cl	c-Pen	2-Cl-6-F-4-OMe
CH ₂ Cl	c-Pen	2-Cl	CH ₂ F	c-Pen	2-Cl
CH ₂ Cl	c-Pen	2,4-Cl ₂	CH ₂ F	c-Pen	2,4-Cl ₂

【 0060 】

【 表 20 】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	c-Pen	2,6-Cl ₂	CH ₂ F	c-Pen	2,6-Cl ₂
CH ₂ Cl	c-Pen	2,4,6-Cl ₃	CH ₂ F	c-Pen	2,4,6-Cl ₃
CH ₂ Cl	c-Pen	3-Cl	CH ₂ F	c-Pen	3-Cl
CH ₂ Cl	c-Pen	2-F	CH ₂ F	c-Pen	2-F
CH ₂ Cl	c-Pen	2,4-F ₂	CH ₂ F	c-Pen	2,4-F ₂
CH ₂ Cl	c-Pen	2,6-F ₂	CH ₂ F	c-Pen	2,6-F ₂
CH ₂ Cl	c-Pen	2,4,6-F ₃	CH ₂ F	c-Pen	2,4,6-F ₃
CH ₂ Cl	c-Pen	3-F	CH ₂ F	c-Pen	3-F
CH ₂ Cl	c-Pen	2-Me	CH ₂ F	c-Pen	2-Me
CH ₂ Cl	c-Pen	2,4-Me ₂	CH ₂ F	c-Pen	2,4-Me ₂
CH ₂ Cl	c-Pen	2,6-Me ₂	CH ₂ F	c-Pen	2,6-Me ₂
CH ₂ Cl	c-Pen	2-Cl-6-F	CH ₂ F	c-Pen	2-Cl-6-F
CH ₂ Cl	c-Pen	2,6-F ₂ -4-OMe	CH ₂ F	c-Pen	2,6-F ₂ -4-OMe
CH ₂ Cl	c-Pen	2,6-F ₂ -4-OCF ₃	CH ₂ F	c-Pen	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	c-Pen	2-Cl-6-F-4-OMe	CH ₂ F	c-Pen	2-Cl-6-F-4-OMe
CHCl ₂	c-HexNH	2-Cl	C ₂ F ₅	c-HexNH	2-Cl
CHCl ₂	c-HexNH	2,4-Cl ₂	C ₂ F ₅	c-HexNH	2,4-Cl ₂
CHCl ₂	c-HexNH	2,6-Cl ₂	C ₂ F ₅	c-HexNH	2,6-Cl ₂
CHF ₂	c-HexNH	2,4,6-Cl ₃	C ₂ F ₅	c-HexNH	2,4,6-Cl ₃
CHF ₂	c-HexNH	3-Cl	C ₂ F ₅	c-HexNH	3-Cl
CHF ₂	c-HexNH	2-F	C ₂ F ₅	c-HexNH	2-F
CHF ₂	c-HexNH	2,4-F ₂	C ₂ F ₅	c-HexNH	2,4-F ₂
CHF ₂	c-HexNH	2,6-F ₂	C ₂ F ₅	c-HexNH	2,6-F ₂
CHF ₂	c-HexNH	2,4,6-F ₃	C ₂ F ₅	c-HexNH	2,4,6-F ₃
CHF ₂	c-HexNH	3-F	C ₂ F ₅	c-HexNH	3-F
CHF ₂	c-HexNH	2-Me	C ₂ F ₅	c-HexNH	2-Me
CHF ₂	c-HexNH	2,4-Me ₂	C ₂ F ₅	c-HexNH	2,4-Me ₂
CHF ₂	c-HexNH	2,6-Me ₂	C ₂ F ₅	c-HexNH	2,6-Me ₂
CHF ₂	c-HexNH	2-Cl-6-F	C ₂ F ₅	c-HexNH	2-Cl-6-F
CHF ₂	c-HexNH	2,6-F ₂ -4-OMe	C ₂ F ₅	c-HexNH	2,6-F ₂ -4-OMe
CHF ₂	c-HexNH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	c-HexNH	2,6-F ₂ -4-OCF ₃
CHF ₂	c-HexNH	2-Cl-6-F-4-OMe	C ₂ F ₅	c-HexNH	2-Cl-6-F-4-OMe
CF ₃	c-HexNH	2-Cl	CF ₂ Cl	c-HexNH	2-Cl
CF ₃	c-HexNH	2,4-Cl ₂	CF ₂ Cl	c-HexNH	2,4-Cl ₂
CF ₃	c-HexNH	2,6-Cl ₂	CF ₂ Cl	c-HexNH	2,6-Cl ₂
CF ₃	c-HexNH	2,4,6-Cl ₃	CF ₂ Cl	c-HexNH	2,4,6-Cl ₃

【 0061 】

【 表 21 】

第 1 表(つづき)

R_2	R_1	L_n	R_2	R_1	L_n
CF_3	c-HexNH	3-Cl	CF_2Cl	c-HexNH	3-Cl
CF_3	c-HexNH	2-F	CF_2Cl	c-HexNH	2-F
CF_3	c-HexNH	2,4-F ₂	CF_2Cl	c-HexNH	2,4-F ₂
CF_3	c-HexNH	2,6-F ₂	CF_2Cl	c-HexNH	2,6-F ₂
CF_3	c-HexNH	2,4,6-F ₃	CF_2Cl	c-HexNH	2,4,6-F ₃
CF_3	c-HexNH	3-F	CF_2Cl	c-HexNH	3-F
CF_3	c-HexNH	2-Me	CF_2Cl	c-HexNH	2-Me
CF_3	c-HexNH	2,4-Me ₂	CF_2Cl	c-HexNH	2,4-Me ₂
CF_3	c-HexNH	2,6-Me ₂	CF_2Cl	c-HexNH	2,6-Me ₂
CF_3	c-HexNH	2-Cl-6-F	CF_2Cl	c-HexNH	2-Cl-6-F
CF_3	c-HexNH	2,6-F ₂ -4-OMe	CF_2Cl	c-HexNH	2,6-F ₂ -4-OMe
CF_3	c-HexNH	2,6-F ₂ -4-OCF ₃	CF_2Cl	c-HexNH	2,6-F ₂ -4-OCF ₃
CF_3	c-HexNH	2-Cl-6-F-4-OMe	CF_2Cl	c-HexNH	2-Cl-6-F-4-OMe
CH_2Cl	c-HexNH	2-Cl	CH_2F	c-HexNH	2-Cl
CH_2Cl	c-HexNH	2,4-Cl ₂	CH_2F	c-HexNH	2,4-Cl ₂
CH_2Cl	c-HexNH	2,6-Cl ₂	CH_2F	c-HexNH	2,6-Cl ₂
CH_2Cl	c-HexNH	2,4,6-Cl ₃	CH_2F	c-HexNH	2,4,6-Cl ₃
CH_2Cl	c-HexNH	3-Cl	CH_2F	c-HexNH	3-Cl
CH_2Cl	c-HexNH	2-F	CH_2F	c-HexNH	2-F
CH_2Cl	c-HexNH	2,4-F ₂	CH_2F	c-HexNH	2,4-F ₂
CH_2Cl	c-HexNH	2,6-F ₂	CH_2F	c-HexNH	2,6-F ₂
CH_2Cl	c-HexNH	2,4,6-F ₃	CH_2F	c-HexNH	2,4,6-F ₃
CH_2Cl	c-HexNH	3-F	CH_2F	c-HexNH	3-F
CH_2Cl	c-HexNH	2-Me	CH_2F	c-HexNH	2-Me
CH_2Cl	c-HexNH	2,4-Me ₂	CH_2F	c-HexNH	2,4-Me ₂
CH_2Cl	c-HexNH	2,6-Me ₂	CH_2F	c-HexNH	2,6-Me ₂
CH_2Cl	c-HexNH	2-Cl-6-F	CH_2F	c-HexNH	2-Cl-6-F
CH_2Cl	c-HexNH	2,6-F ₂ -4-OMe	CH_2F	c-HexNH	2,6-F ₂ -4-OMe
CH_2Cl	c-HexNH	2,6-F ₂ -4-OCF ₃	CH_2F	c-HexNH	2,6-F ₂ -4-OCF ₃
CH_2Cl	c-HexNH	2-Cl-6-F-4-OMe	CH_2F	c-HexNH	2-Cl-6-F-4-OMe
CH_2F	2-MeAl-NH	2-Cl	C_2F_5	2-MeAl-NH	2-Cl
CH_2F	2-MeAl-NH	2,4-Cl ₂	C_2F_5	2-MeAl-NH	2,4-Cl ₂
CH_2F	2-MeAl-NH	2,6-Cl ₂	C_2F_5	2-MeAl-NH	2,6-Cl ₂
CH_2F	2-MeAl-NH	2,4,6-Cl ₃	C_2F_5	2-MeAl-NH	2,4,6-Cl ₃
CH_2F	2-MeAl-NH	3-Cl	C_2F_5	2-MeAl-NH	3-Cl
CH_2F	2-MeAl-NH	2-F	C_2F_5	2-MeAl-NH	2-F

【 0062 】

【 表 22 】

第 1 表(つづき)

R ₂	R ₁	Ln	l ₂	l ₁	Ln
CH ₂ F ₂	2-MeAl-NH	2,4-F ₂	C ₂ F ₅	2-MeAl-NH	2,4-F ₂
CH ₂ F ₂	2-MeAl-NH	2,6-F ₂	C ₂ F ₅	2-MeAl-NH	2,6-F ₂
CH ₂ F ₂	2-MeAl-NH	2,4,6-F ₃	C ₂ F ₅	2-MeAl-NH	2,4,6-F ₃
CHF ₂	2-MeAl-NH	3-F	C ₂ F ₅	2-MeAl-NH	3-F
CH ₂ F ₂	2-MeAl-NH	2-Me	C ₂ F ₅	2-MeAl-NH	2-Me
CH ₂ F ₂	2-MeAl-NH	2,4-Me ₂	C ₂ F ₅	2-MeAl-NH	2,4-Me ₂
CH ₂ F ₂	2-MeAl-NH	2,6-Me ₂	C ₂ F ₅	2-MeAl-NH	2,6-Me ₂
CH ₂ F ₂	2-MeAl-NH	2-Cl-6-F	C ₂ F ₅	2-MeAl-NH	2-Cl-6-F
CH ₂ F ₂	2-MeAl-NH	2,6-F ₂ -4-OMe	C ₂ F ₅	2-MeAl-NH	2,6-F ₂ -4-OMe
CH ₂ F ₂	2-MeAl-NH	2,6-F ₂ -4-OCF ₃	C ₂ F ₅	2-MeAl-NH	2,6-F ₂ -4-OCF ₃
CH ₂ F ₂	2-MeAl-NH	2-Cl-6-F-4-OMe	C ₂ F ₅	2-MeAl-NH	2-Cl-6-F-4-OMe
CF ₃	2-MeAl-NH	2-Cl	CF ₂ Cl	2-MeAl-NH	2-Cl
CF ₃	2-MeAl-NH	2,4-Cl ₂	CF ₂ Cl	2-MeAl-NH	2,4-Cl ₂
CF ₃	2-MeAl-NH	2,6-Cl ₂	CF ₂ Cl	2-MeAl-NH	2,6-Cl ₂
CF ₃	2-MeAl-NH	2,4,6-Cl ₃	CF ₂ Cl	2-MeAl-NH	2,4,6-Cl ₃
CF ₃	2-MeAl-NH	3-Cl	CF ₂ Cl	2-MeAl-NH	3-Cl
CF ₃	2-MeAl-NH	2-F	CF ₂ Cl	2-MeAl-NH	2-F
CF ₃	2-MeAl-NH	2,4-F ₂	CF ₂ Cl	2-MeAl-NH	2,4-F ₂
CF ₃	2-MeAl-NH	2,6-F ₂	CF ₂ Cl	2-MeAl-NH	2,6-F ₂
CF ₃	2-MeAl-NH	2,4,6-F ₃	CF ₂ Cl	2-MeAl-NH	2,4,6-F ₃
CF ₃	2-MeAl-NH	3-F	CF ₂ Cl	2-MeAl-NH	3-F
CF ₃	2-MeAl-NH	2-Me	CF ₂ Cl	2-MeAl-NH	2-Me
CF ₃	2-MeAl-NH	2,4-Me ₂	CF ₂ Cl	2-MeAl-NH	2,4-Me ₂
CF ₃	2-MeAl-NH	2,6-Me ₂	CF ₂ Cl	2-MeAl-NH	2,6-Me ₂
CF ₃	2-MeAl-NH	2-Cl-6-F	CF ₂ Cl	2-MeAl-NH	2-Cl-6-F
CF ₃	2-MeAl-NH	2,6-F ₂ -4-OMe	CF ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OMe
CF ₃	2-MeAl-NH	2,6-F ₂ -4-OCF ₃	CF ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OCF ₃
CF ₃	2-MeAl-NH	2-Cl-6-F-4-OMe	CF ₂ Cl	2-MeAl-NH	2-Cl-6-F-4-OMe
CH ₂ Cl	2-MeAl-NH	2-Cl	CH ₂ F	2-MeAl-NH	2-Cl
CH ₂ Cl	2-MeAl-NH	2,4-Cl ₂	CH ₂ F	2-MeAl-NH	2,4-Cl ₂
CH ₂ Cl	2-MeAl-NH	2,6-Cl ₂	CH ₂ F	2-MeAl-NH	2,6-Cl ₂
CH ₂ Cl	2-MeAl-NH	2,4,6-Cl ₃	CH ₂ F	2-MeAl-NH	2,4,6-Cl ₃
CH ₂ Cl	2-MeAl-NH	3-Cl	CH ₂ F	2-MeAl-NH	3-Cl
CH ₂ Cl	2-MeAl-NH	2-F	CH ₂ F	2-MeAl-NH	2-F
CH ₂ Cl	2-MeAl-NH	2,4-F ₂	CH ₂ F	2-MeAl-NH	2,4-F ₂
CH ₂ Cl	2-MeAl-NH	2,6-F ₂	CH ₂ F	2-MeAl-NH	2,6-F ₂

【0063】

【表23】

第 1 表(つづき)

R ₂	R ₁	Ln	R ₂	R ₁	Ln
CH ₂ Cl	2-MeAl-NH	2,4,6-F ₃	CH ₂ F	2-MeAl-NH	2,4,6-F ₃
CH ₂ Cl	2-MeAl-NH	3-F	CH ₂ F	2-MeAl-NH	3-F
CH ₂ Cl	2-MeAl-NH	2-Me	CH ₂ F	2-MeAl-NH	2-Me
CH ₂ Cl	2-MeAl-NH	2,4-Me ₂	CH ₂ F	2-MeAl-NH	2,4-Me ₂
CH ₂ Cl	2-MeAl-NH	2,6-Me ₂	CH ₂ F	2-MeAl-NH	2,6-Me ₂
CH ₂ Cl	2-MeAl-NH	2-Cl-6-F	CH ₂ F	2-MeAl-NH	2-Cl-6-F
CH ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OMe	CH ₂ F	2-MeAl-NH	2,6-F ₂ -4-OMe
CH ₂ Cl	2-MeAl-NH	2,6-F ₂ -4-OCF ₃	CH ₂ F	2-MeAl-NH	2,6-F ₂ -4-OCF ₃
CH ₂ Cl	2-MeAl-NH	2-Cl-6-F-4-OMe	CH ₂ F	2-MeAl-NH	2-Cl-6-F-4-OMe
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2-Cl	Me(CF ₃)CHCH ₂	c-Hex	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2-Cl-6-F	Me(CF ₃)CHCH ₂	c-Hex	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	c-Hex	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	c-Hex	2,4,6-F ₃	Me(CF ₃)CHCH ₂	c-Hex	2,4,6-F ₃
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2-Cl	Me(CF ₃)CHCH ₂	4-Me-Pip	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2-Cl-6-F	Me(CF ₃)CHCH ₂	4-Me-Pip	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	4-Me-Pip	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	4-Me-Pip	2,4,6-F ₃	Me(CF ₃)CHCH ₂	4-Me-Pip	2,4,6-F ₃
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl-6-F	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃	Me(CF ₃)CHCH ₂	CF ₃ (Me)CHNH	2,4,6-F ₃
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2-Cl	Me(CF ₃)CHCH ₂	c-PenNH	2-Cl
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2-Cl-6-F	Me(CF ₃)CHCH ₂	c-PenNH	2-Cl-6-F
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2,6-F ₂ -4-OMe	Me(CF ₃)CHCH ₂	c-PenNH	2,6-F ₂ -4-OMe
CF ₃ (CF ₂) ₂ CF ₂	c-PenNH	2,4,6-F ₃	Me(CF ₃)CHCH ₂	c-PenNH	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	c-Hex	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2-Cl
CF ₃ CF ₂ CF ₂	c-Hex	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2-Cl-6-F
CF ₃ CF ₂ CF ₂	c-Hex	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	c-Hex	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	c-Hex	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	4-Me-Pip	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2-Cl
CF ₃ CF ₂ CF ₂	4-Me-Pip	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2-Cl-6-F
CF ₃ CF ₂ CF ₂	4-Me-Pip	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	4-Me-Pip	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	4-Me-Pip	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2-Cl
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2-Cl-6-F
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	CF ₃ (Me)CHNH	2,4,6-F ₃
CF ₃ CF ₂ CF ₂	c-PenNH	2-Cl	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2-Cl
CF ₃ CF ₂ CF ₂	c-PenNH	2-Cl-6-F	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2-Cl-6-F
CF ₃ CF ₂ CF ₂	c-PenNH	2,6-F ₂ -4-OMe	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2,6-F ₂ -4-OMe
CF ₃ CF ₂ CF ₂	c-PenNH	2,4,6-F ₃	CF ₃ (CF ₂) ₄ CF ₂	c-PenNH	2,4,6-F ₃

【0064】(農園芸用殺菌剤)本発明化合物は、広範囲の種類の糸状菌、例えば、藻菌類(Oomycetes)、子のう(嚢)菌類(Ascomycetes)、不完全菌類(Deuteromycetes)、担子菌類(Basidiomycetes)に属する菌に対し

優れた殺菌力を有する。本発明化合物を有効成分とする組成物は、花卉、芝、牧草を含む農園芸作物の栽培に際し発生する種々の病害の防除に、種子処理、茎葉散布、土壌施用又は水面施用等により使用することができる。

【0065】例えば、

テンサイ 褐斑病(Cercospora beticola)
ラッカセイ 褐斑病(Mycosphaerella arachidis)
黒渋病(Mycosphaerella berkeleyi)
キュウリ うどんこ病(Sphaerotheca fuliginea)
つる枯病(Mycosphaerella melonis)
菌核病(Sclerotinia sclerotiorum)

灰色かび病 (*Botrytis cinerea*)
 黒星病 (*Cladosporium cucumerinum*)
 トマト 灰色かび病 (*Botrytis cinerea*)
 葉かび病 (*Cladosporium fulvum*)
 ナス 灰色かび病 (*Botrytis cinerea*)
 黒枯病 (*Corynespora melongenae*)
 うどんこ病 (*Erysiphe cichoracearum*)
 イチゴ 灰色かび病 (*Botrytis cinerea*)
 うどんこ病 (*Sphaerotheca humuli*)
 タマネギ 灰色腐敗病 (*Botrytis allii*)
 灰色かび病 (*Botrytis cinerea*)
 インゲン 菌核病 (*Sclerotinia sclerotiorum*)
 灰色かび病 (*Botrytis cinerea*)
 りんご うどんこ病 (*Podosphaera leucotricha*)
 黒星病 (*Venturia inaequalis*)
 モニリア病 (*Monilinia mali*)
 カキ うどんこ病 (*Phyllactinia kakicola*)
 炭そ病 (*Gloeosporium kaki*)
 角斑落葉病 (*Cercospora kaki*)
 モモ・オウトウ 灰星病 (*Monilinia fructicola*)

【0066】

ブドウ 灰色かび病 (*Botrytis cinerea*)
 うどんこ病 (*Uncinula necator*)
 晩腐病 (*Glomerella cingulata*)
 ナシ 黒星病 (*Venturia nashicola*)
 赤星病 (*Gymnosporangium asiaticum*)
 黒斑病 (*Alternaria kikuchiana*)
 チャ 輪斑病 (*Pestalotia theae*)
 炭そ病 (*Colletotrichum theae-sinesis*)
 カンキツ そうか病 (*Elsinoe fawcettii*)
 青かび病 (*Penicillium italicum*)
 緑かび病 (*Penicillium digitatum*)
 灰色かび病 (*Botrytis cinerea*)
 オオムギ うどんこ病 (*Erysiphe graminis* f. sp. hordei)
 裸黒穂病 (*Ustilago nuda*)
 コムギの赤かび病 (*Gibberella zeae*)
 赤さび病 (*Puccinia recondita*)
 斑点病 (*Cochliobolus sativus*)
 眼紋病 (*Pseudocercospora herpotrichoides*)
 ふ枯病 (*Leptosphaeria nodorum*)
 うどんこ病 (*Erysiphe graminis* f. sp. tritici)
 紅色雪腐病 (*Micronectriella nivalis*)

【0067】

イネ いもち病 (*Pyricularia oryzae*)
 紋枯病 (*Rhizoctonia solani*)
 馬鹿苗病 (*Gibberella fujikuroi*)

ごま葉枯病 (*Cochliobolus niyabeanus*)
 タバコ 菌核病 (*Sclerotinia sclerotiorum*)
 うどんこ病 (*Erysiphe cichoracearum*)
 チューリップ 灰色かび病 (*Botrytis cinerea*)
 ベントグラス 雪腐大粒菌核病 (*Sclerotinia borealis*)
 オーチャードグラス うどんこ病 (*Erysiphe graminis*)
 ダイズ 紫斑病 (*Cercospora kikuchii*)
 ジャガイモ・トマト 疫病 (*Phytophthora infestans*)
 キュウリ ベと病 (*Pseudoperonospora cubensis*)
 ブドウ ベと病 (*Plasmopara viticola*)

等の防除に使用することができる。

【0068】また、近年種々の病原菌においてベンズイミダゾール系殺菌剤やジカルボキシイミド系殺菌剤等に対する耐性が発達し、それらの薬剤の効力不足を生じており、耐性菌にも有効な薬剤が望まれている。本発明の化合物は、それら薬剤に対し感受性の病原菌のみならず、耐性菌にも優れた殺菌効果を有する薬剤である。例えば、チオファネートメチル、ベノミル、カルベンダジム等のベンズイミダゾール系殺菌剤に耐性を示す灰色かび病菌 (*Botrytis cinerea*) やテンサイ褐斑病菌 (*Cercospora beticola*)、リンゴ黒星病菌 (*Venturia inaequalis*)、ナシ黒星病菌 (*Venturia nashicola*) に対しても感受性菌と同様に本発明化合物は有効である。

【0069】さらに、ジカルボキシイミド系殺菌剤 (例えば、ビンクロゾリン、プロシミドン、イプロジオン) に耐性を示す灰色かび病菌 (*Botrytis cinerea*) に対しても感受性菌と同様に本発明化合物は有効である。

【0070】適用がより好ましい病害としては、テンサイの褐斑病、コムギのうどんこ病、イネのいもち病、リンゴ黒星病、キュウリの灰色かび病、ラッカセイの褐斑病等が挙げられる。

【0071】本発明化合物は、水棲生物が船底、魚網等の水中接触物に付着するのを防止するための防汚剤として使用することもできる。本発明化合物の中には、殺虫・殺ダニ活性を示すものもある。

【0072】本発明殺菌剤は本発明化合物の1種又は2種以上を有効成分として含有する。本発明化合物を実際に施用する際には他成分を加えず純粋な形で使用できるし、また農薬として使用する目的で一般の農薬のとり得る形態、即ち、水和剤、粒剤、粉剤、乳剤、水溶剤、懸濁剤、顆粒水和剤等の形態で使用することもできる。

【0073】農薬製剤中に添加することのできる添加剤及び担体としては、固型剤を目的とする場合は、大豆粉、小麦粉等の植物性粉末、珪藻土、燐灰石、石こう、タルク、ベントナイト、パイロフィライト、クレー等の鉱物性微粉末、安息香酸ソーダ、尿素、芒硝等の有機及び無機化合物が使用される。

【0074】また、液体の剤型を目的とする場合は、ケロシン、キシレン及び石油系の芳香族炭化水素、シクロヘキサン、シクロヘキサノン、ジメチルホルムアミド、ジメチルスルホキシド、アルコール、アセトン、トリクロルエチレン、メチルイソブチルケトン、鉱物油、植物油、水等を溶剤として使用することができる。さらに、これらの製剤において均一かつ安定な形態をとるために、必要に応じ界面活性剤を添加することもできる。添加することが出来る界面活性剤としては特に限定はないが、例えば、ポリオキシエチレンが付加したアルキルフェニルエーテル、ポリオキシエチレンが付加したアルキルエーテル、ポリオキシエチレンが付加した高級脂肪酸エステル、ポリオキシエチレンが付加したソルビタン高級脂肪酸エステル、ポリオキシエチレンが付加したトリステリルフェニルエーテル等の非イオン性界面活性剤、ポリオキシエチレンが付加したアルキルフェニルエーテルの硫酸エステル塩、アルキルベンゼンスルホン酸塩、高級アルコールの硫酸エステル塩、アルキルナフタレンスルホン酸塩、ポリカルボン酸塩、リグニンスルホン酸塩、アルキルナフタレンスルホン酸塩のホルムアルデヒド縮合物、イソブチレン-無水マレイン酸の共重合体等が挙げられる。

【0075】得られた水和剤、乳剤、フロアブル剤、水溶剤、顆粒水和剤は水で所定の濃度に希釈して溶解液、懸濁液あるいは乳濁液として、粉剤・粒剤はそのまま植物に散布する方法で使用される。また有効成分量は、通常、組成物 (製剤) 全体に対して好ましくは0.01~90重量%であり、より好ましくは0.05~85重量%である。

【0076】製剤化された本発明の殺菌剤組成物は、そのまま、或いは水等で希釈して、植物体、種子、水面又は土壤に施用される。施用量は、気象条件、製剤形態、施用磁気、施用方法、施用場所、防除対象病害、対象作物等により異なるが、通常1ヘクタール当たり有効成分化合物量にして1~1,000g、好ましくは10~100gである。

【0077】水和剤、乳剤、懸濁剤、水溶剤、顆粒水和剤等を水で希釈して施用する場合、その施用濃度は1~1000ppm、好ましくは10~250ppmであり、粒剤、粉剤等の場合は、希釈することなくそのまま

施用する。なお、本発明化合物は単独でも十分有効であることは言うまでもないが、各種の殺菌剤や殺虫・殺ダニ剤又は共力剤の1種又は2種以上と混合して使用することも出来る。

【0078】本発明化合物と混合して使用出来る殺菌剤、殺虫剤、殺ダニ剤、植物生長調節剤の代表例を以下に示す。

【0079】殺菌剤：キャプタン、フォルベット、チウラム、ジラム、ジネブ、マンネブ、マンコゼブ、プロピネブ、ポリカーバメート、クロロタロニル、キントーゼン、キャプタホル、イプロジオン、プロサイミドン、ビンクロゾリン、フルオロイミド、サイモキサニル、メプロニル、フルトラニル、ペンシクロン、オキシカルボキシ、ホセチルアルミニウム、プロパモカーブ、トリアジメホン、トリアジメノール、プロピコナゾール、ジクロブトラゾール、ビテルタノール、ヘキサコナゾール、マイクロブタニル、フルシラゾール、メトコナゾール、エタコナゾール、フルオトリマゾール、シプロコナゾール、エポキシコナゾール、フルトリアフェン、ベンコナゾール、ジニコナゾール、サイプロコナゾール、フェナリモール、トリフルミゾール、プロクロラズ、イマザリル、ペフラゾエート、トリデモルフ、フェンプロピモルフ、トリホリン、ブチオベート、ピリフェノックス、アニラジン、ポリオキシ、メタラキシル、オキサジキシル、フララキシル、イソプロチオラン、プロベナゾール、ピロールニトリン、ブラストサイジンS、カスガマイシン、バリダマイシン、硫酸ジヒドロストレプトマイシン、ベノミル、カルベンダジム、チオファネートメチル、ヒメキサゾール、塩基性塩化銅、塩基性硫酸銅、フェンチンアセテート、水酸化トリフェニル錫、ジエトフェンカルブ、メタスルホカルブ、キノメチオネート、ビナバクリル、レシチン、重曹、ジチアノン、ジノカップ、フェナミノスルフ、ジクロメジン、グアザチン、ドジン、IBP、エディフェンホス、メパニピリム、フェルムゾン、トリクラミド、メタスルホカルブ、フルアジナム、エトキノラック、ジメトモルフ、ピロキロン、テクロフタラム、フサライド、フェナジンオキシド、チアベンダゾール、トリシクラゾール、ビンクロゾリン、シモキサニル、シクロブタニル、グアザチン、プロバモカルブ塩酸塩、オキシソリニック酸、ヒドロキシイソオキサゾール、イミノクタジン酢酸塩等。

【0080】殺虫・殺ダニ剤：有機燐及びカーバメート系殺虫剤：フェンチオン、フェニトロチオン、ダイアジノン、クロルピリホス、ESP、バミドチオン、フェントエート、ジメトエート、ホルモチオン、マラソン、トリクロロホン、チオメトン、ホスメット、ジクロルボス、アセフェート、EPBP、メチルパラチオン、オキシジメトンメチル、エチオン、サリチオン、シアノホス、イソキサチオン、ピリダフェンチオン、ホサロン、メチダチオン、スルプロホス、クロルフェンビンホス、

テトラクロルビンホス、ジメチルビンホス、プロバホス、イソフェンホス、エチルチオメトン、プロフェノホス、ピラクロホス、モノクロトホス、アジンホスメチル、アルディカルブ、メソミル、チオジカルブ、カルボフラン、カルボスルファン、ベンフラカルブ、フラチオカルブ、プロボキスル、BPMC、MTMC、MIPC、カルバリル、ピリミカーブ、エチオフェンカルブ、フェノキシカルブ、EDDP等。

【0081】ピレスロイド系殺虫剤：ペルメトリン、シペルメトリン、デルタメスリン、フェンバレレート、フェンプロパトリン、ピレトリン、アレスリン、テトラメスリン、レスメトリン、ジメスリン、プロパスリン、フェノトリン、プロトリン、フルバリネート、シフルトリン、シハロトリン、フルシトリネート、エトフェンプロクス、シクロプロトリン、トロラメトリン、シラフルフェン、プロフェンプロクス、アクリナスリン等。

【0082】ベンゾイルウレア系その他の殺虫剤：ジフルベンズロン、クロルフルアズロン、ヘキサフルムロン、トリフルムロン、テトラベンズロン、フルフェノクスロン、フルシクロクスロン、ブプロフェジン、ピリプロキシフェン、メトブレン、ベンゾエピン、ジアフェンチウロン、アセタミプリド、イミダクロプリド、ニテンピラム、フィプロニル、カルタップ、チオシクラム、ベンスルタップ、硫酸ニコチン、ロテノン、メタアルデヒド、機械油、BTや昆虫病原ウイルス等の微生物農薬等。

【0083】殺線虫剤：フェナミホス、ホスチアゼート等。

殺ダニ剤：クロルベンジレート、フェニソプロモレート、ジコホル、アミトラズ、BPPS、ベンゾメート、ヘキシチアゾクス、酸化フェンブタスズ、ポリナクチン、キノメチオネート、CPCBS、テトラジホン、アベルメクチン、ミルベメクチン、クロフェンテジン、シヘキサチン、ピリダベン、フェンピロキシメート、テブフェンピラド、ピリミジフェン、フェノチオカルブ、ジエノクロル等。

【0084】植物生長調節剤：ジベレリン類（例えばジベレリンA3、ジベレリンA4、ジベレリンA7）IAA、NAA。

【0085】

【実施例】次に実施例を挙げ、本発明化合物をさらに詳細に説明する。

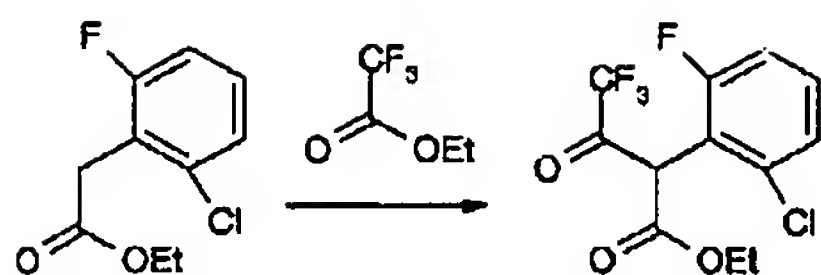
（実施例1）7-クロロ-6-（2-クロロ-6-フルオロフェニル）-5-トリフルオロメチル-1, 2, 4-トリアゾロ[1, 5-a]ピリミジンの製造

1) エチル 2-（2-クロロ-6-フルオロフェニル）-4, 4, 4-トリフルオロ-3-オキソブチレート

の製造

【0086】

【化14】

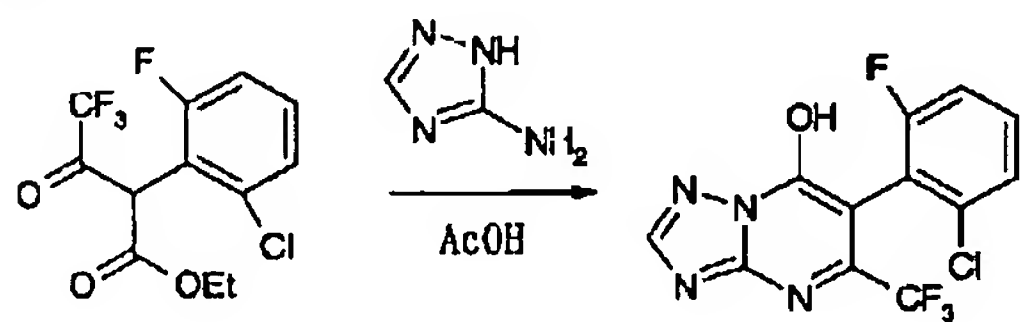


【0087】エチル 2-クロロ-6-フルオロフェニルアセテート43.3 gのDMF 100 ml溶液に、エチル トリフルオロアセテート85.2 gを加えた後、室温下、水素化ナトリウム8 gを少量ずつ添加した。反応混合物を70℃まで昇温し、水素の発生が無くなるまで撹拌した。反応混合物を冷却後、1 N-塩酸中に注加し、酢酸エチルで抽出した。有機層を無水硫酸マグネシウムで乾燥し、濃縮した後、シリカゲルカラムクロマトグラフィー（展開溶媒；n-ヘキサン）で精製し、目的物12 gを得た。収率20%
 $n_D^{22.4} = 1.4731$

【0088】2) 6-(2-クロロ-6-フルオロフェニル)-7-ヒドロキシ-5-トリフルオロメチル-1,2,4-トリアゾロ[1,5-a]ピリミジンの製造

【0089】

【化15】

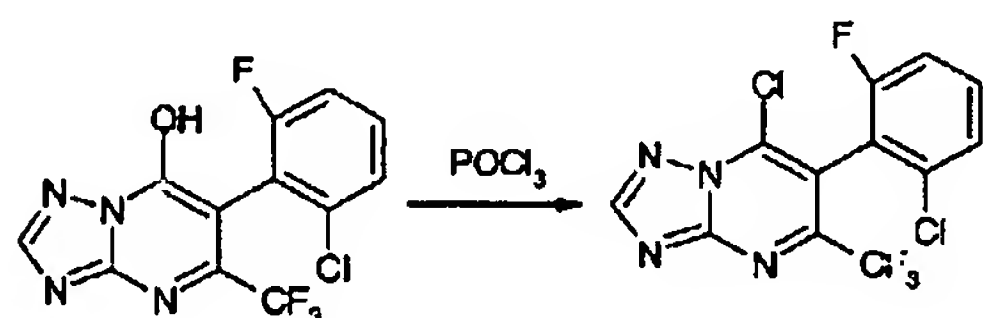


【0090】エチル 2-(2-クロロ-6-フルオロフェニル)-4,4,4-トリフルオロ-3-オキソブチレート3.13 g、3-アミノ-1H-1,2,4-トリアゾール及び酢酸3 mlを混合し、該混合物を100℃で4時間撹拌した。反応液を、室温まで冷却して、晶析結晶をろ取した。晶析結晶をジエチルエーテルで洗浄した後、乾燥し、目的物0.7 gを得た。収率21%
 融点：220℃up

【0091】3) 7-クロロ-6-(2-クロロ-6-フルオロフェニル)-5-トリフルオロメチル-1,2,4-トリアゾロ[1,5-a]ピリミジンの製造

【0092】

【化16】

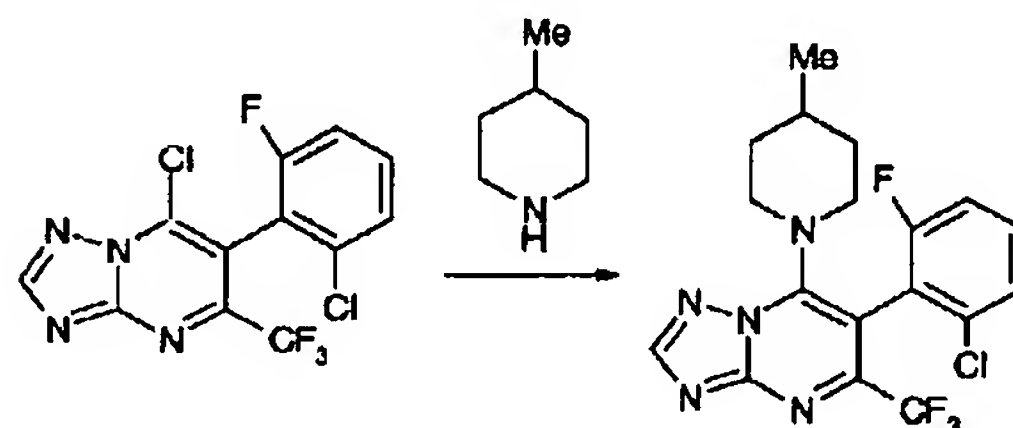


【0093】7-ヒドロキシ-6-(2-クロロ-6-フルオロフェニル)-5-トリフルオロメチル-1,2,4-トリアゾロ[1,5-a]ピリミジン0.6 gとオキシ塩化リン10 mlとを混合し、該混合物を4時間、加熱還流した。反応混合物を濃縮し、飽和重曹水溶液2 ml、水10 ml及び酢酸エチルを加えて撹拌した。有機層を分取し、無水硫酸マグネシウムで乾燥して、濃縮した後、シリカゲルカラムクロマトグラフィー（展開溶媒、n-ヘキサン：酢酸エチル=5：1）で精製し、目的物0.65 gを得た。収率52%、アモルファス

【0094】（実施例2）

6-(2-クロロ-6-フルオロフェニル)-7-(4-メチルピペリジノ)-5-トリフルオロメチル-1,2,4-トリアゾロ[1,5-a]ピリミジンの製造

【化17】



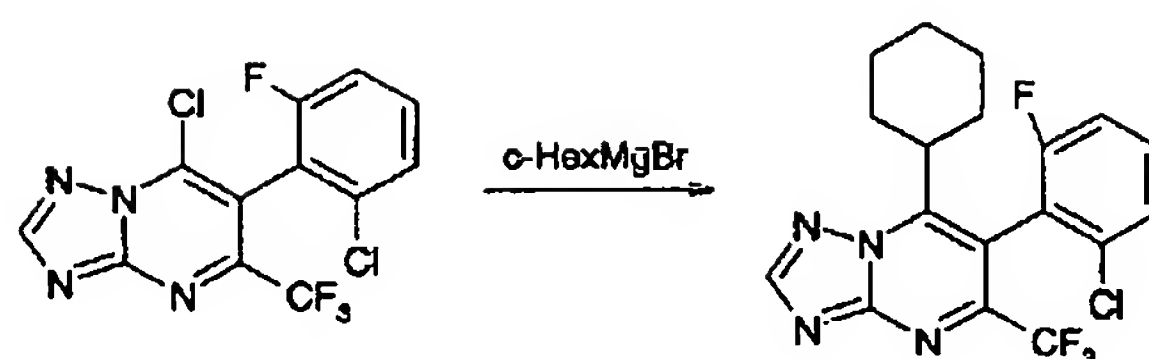
【0096】7-クロロ-6-(2-クロロ-6-フルオロフェニル)-5-トリフルオロメチル-1,2,4-トリアゾロ[1,5-a]ピリミジン0.1 gのTHF 5 ml溶液に、トリエチルアミン0.04 g及び4-ピペコリン0.04 gを加え、室温で1昼夜撹拌した。反応混合物を濃縮した後、シリカゲルカラムクロマトグラフィー（展開溶媒；n-ヘキサン：酢酸エチル=5：1）で精製し、目的物0.1 gを得た。収率85%
 融点：165～166℃

【0097】（実施例3）

6-(2-クロロ-6-フルオロフェニル)-7-シクロヘキシル-5-トリフルオロメチル-1,2,4-トリアゾロ[1,5-a]ピリミジン（化合物番号2）の製造

【0098】

【化18】



【0099】6-(2-クロロ-6-フルオロフェニル)-7-クロロ-5-トリフルオロメチル-1,2,4-トリアゾロ[1,5-a]ピリミジン0.57g、1,3-ビス(ジフェニルホスフィノ)プロパンニッケルクロライド0.08g及びTHF10mlを混合し、窒素気流下、室温で1MシクロヘキシルマグネシウムブロミドTHF溶液を2ml滴下し、一昼夜撹拌した。反応混合物から溶媒を減圧留去した後、酢酸エチルと飽和食塩水を加え撹拌した。有機層を無水硫酸マグネシウムで乾燥し、濃縮して得られた残留物を、シリカゲルカラ

ムクロマトグラフィー(展開溶媒；n-ヘキサン：酢酸エチル=10：1)で精製し、目的物0.15gを得た。収率25%

融点：162~163℃

【0100】上記実施例を含めて本発明の化合物の代表例を第2表に示す。なお、略記号は前記第1表と同じ意味を表す。

【0101】

【表24】

第2表

<p>(1)</p>						
化合物番号	A	R ₁	R ₂	Ln	R ₃	mp(°C)
1	N	OH	CF ₃	2-Cl-6-F	H	220 UP
2	N	Cl	CF ₃	2-Cl-6-F	H	amorphous
3	N	4-Me- <i>i</i> ip	CF ₃	2-Cl-6-F	H	165-166
4	N	<i>c</i> -Hex	CF ₃	2-Cl-6-F	H	162-163
5	N	Mor	CF ₃	2-Cl-6-F	H	220 UP
6	N	CF ₃ CH ₂ NH-	CF ₃	2-Cl-6-F	H	214-216
7	N	<i>i</i> -PrNH-	CF ₃	2-Cl-6-F	H	149-151
8	N	4-Me- <i>i</i> ip	CF ₂ H	2-Cl-6-F	H	156-158
9	N	4-Me- <i>i</i> ip	CF ₃	2,4,6-F ₃	H	154-155
10	N	<i>c</i> -Hex	CF ₃	2,4,6-F ₃	H	162-164
11	N	4-Me- <i>i</i> ip	CF ₃	2-Cl-6-F	Me	142-144
12	N	<i>c</i> -PenNH-	CF ₃	2,4,6-F ₃	H	144-146
13	N	CF ₃ (Me)CHNH	CF ₃	2,4,6-F ₃	H	146-149

【0102】化合物番号2の化合物の¹H-NMRデータ(CDCl₃, δ ppm)；7.22(1H, t), 7.46(1H, t), 7.55(1H, d t), 8.80(1H, s)

【0103】次に、本発明の殺菌剤組成物の実施例を若

実施例4 水和剤

本発明化合物	40部
クレー	48部
ジオクチルスルホサキシネートナトリウム塩	4部
リグニンスルホン酸ナトリウム塩	8部

以上を均一に混合し、微細に粉碎すれば、有効成分40%の水和剤を得る。 【0105】

実施例5 乳剤

本発明化合物	10部
ソルベッソ200	53部
シクロヘキサノン	26部
ドデシルベンゼンスルホン酸カルシウム塩	1部

干示すが、添加物及び添加割合は、これら実施例に限定されるべきものではなく、広範囲に変化させることが可能である。また、製剤実施例中の部は重量部を示す。

【0104】

ポリオキシエチレンアルキルアリルエーテル 10部
 以上を混合溶解し、有効成分10%の乳剤を得る。 【0106】

実施例6 粉剤

本発明化合物 10部
 クレー 90部

以上を均一に混合して微細に粉碎すれば、有効成分10%の粉剤を得る。 【0107】

実施例7 粒剤

本発明化合物 5部
 クレー 73部
 ベントナイト 20部
 ジオクチルスルホサクシネートナトリウム塩 1部
 リン酸カリウム 1部

以上をよく粉碎混合し、水を加えてよく練り合せた後、造粒乾燥して有効成分5%の粒剤を得る。 【0108】

実施例8 懸濁剤

本発明化合物 10部
 ポリオキシエチレンアルキルアリルエーテル 4部
 ポリカルボン酸ナトリウム塩 2部
 グリセリン 10部
 キサンタンガム 0.2部
 水 73.8部

以上を混合し、粒度が3ミクロン以下になるまで湿式粉碎すれば、有効成分10%の懸濁剤を得る。 【0109】

実施例9 顆粒水和剤

本発明化合物 40部
 クレー 36部
 塩化カリウム 10部
 アルキルベンゼンスルホン酸ナトリウム塩 1部
 リグニンスルホン酸ナトリウム塩 8部
 アルキルベンゼンスルホン酸ナトリウム塩のホルムアルデヒド縮合物 5部

以上を均一に混合して微細に粉碎した後、適量の水を加えてから練り込んで粘土状にする。次いで粘土状物を造粒した後、乾燥すれば、有効成分40%の水和剤を得る。

【0110】

【発明の効果】次に、本発明化合物が各種植物病害防除剤の有効成分として有用であることを試験例で示す。

(試験例1) リンゴ黒星病防除試験(予防試験)

素焼きポットで栽培したリンゴ幼苗(品種「国光」、3~4葉期)に、実施例の乳剤を有効成分200ppmの濃度で散布した。室温で自然乾燥した後、リンゴ黒星病菌(*Venturia inaequalis*)の分生胞子を接種し、明暗を12時間毎に繰り返す20℃、高温度の室内に2週間保持した。葉上の病斑出現状態を無処理と比較調査し、防除効果を求めた結果、以下の化合物が75%以上の優れた防除価を示した。なお、化合物

番号は第2表中の化合物番号に対応する。

化合物番号: 3, 4, 6, 7, 8, 10, 12

【0111】(試験例2) インゲン灰色かび病防除試験

育苗バットで栽培したインゲン(品種「ながうずら」)の花を切除し、実施例4の本発明化合物の乳剤を有効成分200ppmの濃度に調整した薬液に浸漬した。浸漬後、室温で自然乾燥し、インゲン灰色かび病菌(*Botrytis cinerea*)を噴霧接種した。接種した花を無処理のインゲン葉に乗せ、明暗を12時間毎に繰り返す高温度の恒温室(20℃)に7日間保持した。葉上の病斑直径を無処理と比較調査し、防除価を求めた。その結果、以下の化合物が75%以上の優れた防除価を示した。なお、化合物番号は第2表中の化合物番号に対応する。

化合物番号: 3, 4, 6, 7, 8, 10, 12

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